

Section 19

Power

This section presents statistics on the supply, production, and distribution of power and energy. The principal sources of these data are the Federal Power Commission and the American Gas Association.

The Federal Power Commission publishes various statistical reports containing data on production of electric energy, capacity of generating plants, basic fuels used, and water power. At regular intervals, it also issues data on sales, revenues, and number of customers by classes of service, and on rates, typical bills, and related matters. Monthly statistics on production, fuels used in production, sales by classes of service, salaries and wages, taxes, and other costs of production appear in the Commission's series entitled *Electric Power Statistics*.

The Federal Power Commission has uniform systems of accounts for public utilities and natural gas companies under its jurisdiction and for its licensees. It compiles data from annual reports of electric utilities containing information on assets, liabilities, revenues, generating capacity, and consumers; power system reports of electric utility systems presenting information on generating capacity, transmission facilities, and loads and load characteristics; monthly and annual reports containing information on production of electricity for public use, fuel consumed, and fuel on hand; reports from electric utilities and industrial corporations on their electric power requirements and supply; and annual reports of natural gas companies showing financial and operating data.

The American Gas Association, in its monthly and quarterly bulletins and its yearbook, *Gas Facts*, presents data on natural gas utilization and on production of gas manufactured from coal, oil, and similar products. Other important sources of information include the Bureau of Mines' *Minerals Yearbook*, containing data on coal, oil, and natural gas production and utilization; and the Edison Electric Institute's monthly and annual *Statistical Bulletin*, containing data on the distribution of electric energy by public utilities.

Alaska and Hawaii.—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

No. 716. TOTAL HORSEPOWER OF ALL PRIME MOVERS: 1940 TO 1962

In thousands. Excludes Alaska and Hawaii, except as noted. Prime movers are mechanical engines and turbines, and work animals, which originally convert fuels or force (as wind or falling water) into work and power. Electric motors, which are secondary movers and obtain their power from prime movers, are excluded to avoid duplication. See also *Historical Statistics, Colonial Times to 1957*, series S 1-14]

ITEM	1940	1950	1955	1960 ¹	1961 ¹	1962 ¹ (prel.)
Total horsepower	2,758,332	4,760,262	7,157,077	10,967,285	11,604,726	12,577,917
Work animals.....	12,510	7,040	4,141	2,790	2,700	2,600
Inanimate.....	2,745,822	4,753,222	7,152,936	10,964,495	11,602,026	12,575,317
Automotive ²	2,511,312	4,403,617	6,632,121	10,366,880	10,972,210	11,930,000
Nonautomotive.....	234,510	349,605	520,815	597,615	629,816	645,317
Factories.....	21,768	32,921	35,579	37,360	37,715	37,700
Mines.....	7,332	9,167	30,768	34,000	34,360	34,700
Railroads.....	92,361	110,969	60,304	46,856	47,453	46,604
Merchant ships, powered ³	9,408	23,423	24,155	23,890	23,046	22,867
Sailing vessels ⁴	26	11	5	2	2	2
Farms ⁵	42,488	63,090	206,590	201,756	205,463	204,740
Windmills.....	130	59	59	44	41	39
Electric central stations.....	53,542	87,965	137,576	217,173	235,746	249,059
Aircraft ^{1,5}	7,455	22,000	25,779	36,534	46,000	49,516

¹ Includes Alaska and Hawaii. ² Includes passenger cars, trucks, buses, and motorcycles.

³ Excludes Alaska and Hawaii.

⁴ Excludes horses and other work animals, which are included with "work animals."

⁵ Includes private planes and commercial airliners.

Source: For 1940-1950, The Twentieth Century Fund, J. F. Dewhurst and Associates, *America's Needs and Resources: A New Survey*; for 1955, John A. Waring, *Transactions of Canadian Sectional Meeting, World Power Conference, 1958*; and beginning 1960, estimates by John A. Waring.

No. 717. MINERAL FUELS AND WATER POWER—PRODUCTION AND CONSUMPTION, BY SOURCE: 1930 TO 1962

[In billions of British thermal units. Beginning 1959, includes Alaska, and 1960, Hawaii. Data for bituminous coal include Alaska for all years. Unit heat values employed are: Anthracite, 12,700 B.t.u. per pound; bituminous coal and lignite, 13,100 B.t.u. per pound; petroleum, 5,800,000 B.t.u. per barrel; natural gas, total production multiplied by 1,075 B.t.u. minus repressuring vent and waste gas multiplied by 1,035. Water power includes installations owned by manufacturing plants and mines, as well as Government and privately owned public utilities. Fuel equivalent of water power calculated from kilowatt-hours of power produced wherever available, as is true of all public utility plants since 1919. Otherwise, fuel equivalent calculated from reported horsepower of installed water wheels, assuming capacity factor of 20 percent for factories and mines. See also *Historical Statistics, Colonial Times to 1957*, series M 71-87.]

YEAR	Total	COAL		Crude petroleum ¹	Natural gas ²	Water power	PERCENT						
		Anthracite	Bituminous and lignite				Coal						
							Anthracite	Bituminous and lignite					
PRODUCTION													
1930	22,119	1,762	12,249	5,208	2,148	752	8.0	55.4	23.5	9.7			
1940	25,088	1,308	12,072	7,849	2,979	880	5.2	48.1	31.3	11.9			
1950	34,510	1,120	13,527	11,449	6,841	1,573	3.2	39.2	33.2	10.8			
1956	41,510	734	13,123	15,181	10,980	1,542	1.8	31.6	36.6	26.3			
1957	41,826	644	12,909	15,178	11,571	1,524	1.5	30.9	36.3	27.7			
1958	39,132	538	10,754	14,204	11,943	1,693	1.4	27.5	36.3	30.5			
1959	40,932	524	10,795	14,932	13,036	1,645	1.3	26.4	36.5	31.8			
1960	41,844	478	10,886	14,935	13,822	1,723	1.2	26.0	35.7	33.0			
1961	42,295	443	10,558	15,206	14,336	1,752	1.1	25.0	35.9	33.9			
1962 (prel.)	43,970	428	11,083	15,522	15,009	1,937	1.0	25.2	35.3	34.1			
CONSUMPTION													
1930	22,288	1,718	11,921	5,652	2,212	785	7.7	53.5	25.4	9.9			
1940	23,908	1,245	11,290	7,487	2,969	917	5.2	47.2	31.4	12.4			
1950	34,153	1,013	11,900	12,706	6,933	1,601	3.0	34.8	37.2	20.3			
1956	42,007	610	11,338	17,418	11,043	1,598	1.4	27.0	41.5	26.3			
1957	41,920	528	10,838	17,328	11,658	1,568	1.3	25.8	41.4	27.8			
1958	41,493	483	9,607	17,428	12,235	1,740	1.2	23.1	42.0	29.5			
1959	43,411	478	9,596	18,307	13,339	1,691	1.1	22.1	42.2	30.7			
1960	44,960	447	9,967	18,608	14,163	1,775	1.0	22.2	41.4	31.5			
1961	45,642	404	9,809	18,926	14,726	1,777	0.9	21.5	41.4	32.3			
1962 (prel.)	47,787	378	10,160	19,650	15,634	1,965	0.8	21.3	41.1	32.7			

¹ Includes commingled condensate. Beginning 1950, consumption includes petroleum products (net imports).

² Marketed production; includes amount stored and lost in transmission. Consumption includes dry and liquid gas.

Source: Department of the Interior, Bureau of Mines; *Minerals Yearbook*. Current data also published in *Mineral Industry Surveys*.

No. 718. ELECTRIC UTILITIES—NUMBER OF ELECTRIC UTILITY SUPPLY SYSTEMS AND GENERATING PLANTS, BY CLASS OF OWNERSHIP: 1945 TO 1961

[As of December 31. Excludes Alaska and Hawaii. Duplications of establishments operating in two or more States have been eliminated. Each type of prime mover in combination generating plants counted separately; nonutility generating plants, producing primarily for industrial use, approximately 2,143 in 1961, are excluded]

ITEM	Total, all classes	Privately owned	Cooperatively owned	PUBLICLY OWNED			
				Total	Municipal	Federal	Other ¹
1945: Total electric supply systems	4,051	1,060	800	2,191	2,092	74	25
Systems with generating plants	1,594	492	83	1,019	990	18	11
Number of generating plants	3,886	2,400	142	1,344	1,157	86	101
1950: Total electric supply systems	4,007	821	963	2,223	2,077	55	91
Systems with generating plants	1,495	393	92	1,010	955	13	42
Number of generating plants	3,867	2,334	166	1,367	1,136	83	148
1955: Total electric supply systems	3,648	581	950	2,117	1,968	57	92
Systems with generating plants	1,315	315	78	922	865	9	48
Number of generating plants	3,637	2,103	146	1,338	1,068	120	141
1960: Total electric supply systems	3,276	364	925	1,987	1,856	43	88
Systems with generating plants	1,234	270	68	896	802	42	52
Number of generating plants	3,435	2,000	132	1,303	1,017	142	144
1961: Systems with generating plants	n.a.	264	67	n.a.	801	n.a.	50
Number of generating plants	3,413	1,078	143	1,292	1,018	141	133

n.a. Not available. ¹ Public utility districts and State projects.

Source: Federal Power Commission, annual summaries; and McGraw-Hill Publishing Co., Inc., New York, N.Y., *Directory of Electric Utilities*.

Electric Energy

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No. 719. ELECTRIC ENERGY USE, 1960 AND 1961, AND PROJECTED REQUIREMENTS, 1965 TO 1980

[Includes Alaska and Hawaii. Excludes generation by industrial facilities and railways having generating facilities of their own]

YEAR	ENERGY USE			PEAK LOAD		
	Billion kw.-hr.	Percent increase		Million kw.	Percent increase	
		From 1960	For each interval		From 1960	For each interval
1960	763.5			138.4		
1961	799.7	4.7	4.7	145.0	4.8	4.8
1965	1,111.0	45.5	45.5	201.0	45.2	45.2
1970	1,564.0	104.8	40.8	283.0	104.5	40.8
1975	2,139.0	180.2	36.8	387.0	179.6	36.7
1980	2,806.0	275.4	34.0	519.0	275.0	34.1

Source: Federal Power Commission; Release No. 11,829, Jan. 30, 1962.

No. 720. ELECTRIC ENERGY PRODUCTION AND INSTALLED GENERATING CAPACITY, BY CLASS OF OWNERSHIP AND TYPE OF PRIME MOVER: 1940 TO 1962

[Production for years ending December 31; other data as of December 31. Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series S 15-35 and S 44-69]

ITEM	1940	1950	1955	1957	1959	1960	1961	1962 (prel.)
Production (1,000,000 kw.-hr.)	179,907	388,674	629,010	716,356	795,251	841,616	878,711	943,053
Electric utilities (for public use)	141,837	320,141	547,038	631,507	710,006	753,350	792,039	851,920
By class of ownership:								
Privately owned	125,411	266,860	420,869	480,943	544,234	575,600	604,883	650,780
Percent of total	88.4	81.1	76.9	76.2	76.7	76.8	76.4	76.4
Publicly owned	10,426	62,281	126,169	150,564	165,772	174,750	187,156	201,140
Municipal	6,188	15,244	25,852	27,850	34,618	38,924	38,763	n.a.
Federal	8,584	40,388	89,064	109,176	109,052	112,321	112,177	n.a.
Cooperatives, power districts, State projects	1,175	5,793	11,253	13,538	22,102	25,505	36,226	n.a.
Noncentral stations	479	857	(1)	(1)	(1)	(1)	(1)	(1)
By source of energy (percent):								
Coal 2	54.6	47.1	55.1	54.9	53.3	53.6	53.5	53.1
Oil	4.4	10.3	6.8	6.4	6.6	6.1	5.9	5.5
Gas	7.7	13.5	17.4	18.1	20.7	21.0	21.4	21.6
Hydro	33.4	29.2	20.7	20.6	19.4	19.3	19.2	19.7
Industrial plants 3	38,070	59,533	81,972	84,849	85,245	88,266	86,673	91,133
Installed capacity (1,000 kw.)	50,962	82,850	130,896	146,221	174,352	185,815	198,417	208,755
Electric utilities (for public use)	39,927	68,919	114,472	129,123	156,841	168,002	180,668	191,062
By class of ownership:								
Privately owned	34,399	55,176	86,887	97,376	118,999	128,450	136,749	144,795
Percent of total	86.2	80.1	75.9	75.4	75.8	76.5	75.7	75.8
Publicly owned	5,528	13,743	27,585	31,747	37,842	39,552	43,919	46,267
Municipal	2,977	4,970	7,795	8,640	10,914	11,499	12,205	n.a.
Federal	1,944	6,921	16,962	19,649	21,874	22,350	23,257	n.a.
Cooperatives, power districts, State projects	435	1,538	2,828	3,458	5,054	5,703	8,457	n.a.
Noncentral stations	173	314	(2)	(1)	(1)	(1)	(1)	(1)
Industrial plants 3	11,035	13,931	16,424	17,098	17,511	17,813	17,750	17,693
TYPE OF PRIME MOVER								
Electric utilities (for public use):								
Number of plants, total 4	3,918	3,867	3,587	3,517	3,457	3,435	3,413	n.a.
Hydro	1,474	1,458	1,381	1,360	1,353	1,331	1,319	n.a.
Steam	1,153	1,051	1,045	1,043	1,049	1,060	1,050	n.a.
Internal combustion	1,291	1,358	1,161	1,114	1,055	1,044	1,044	n.a.
Production (1,000,000 kilowatt-hours)	141,837	329,141	547,038	631,507	710,006	753,350	792,039	851,920
Hydro	47,321	95,938	112,975	130,232	137,781	145,516	161,860	168,135
Steam	93,002	229,543	430,119	497,212	567,839	603,342	635,564	683,785
Internal combustion	1,514	3,600	3,944	4,062	4,385	4,492	4,625	
Installed capacity (1,000 kilowatts)	39,927	68,919	114,472	129,123	156,841	168,002	180,668	191,062
Hydro	11,224	17,675	25,004	27,036	31,074	32,367	35,481	37,307
Steam	27,775	49,333	87,112	99,542	123,085	132,818	142,226	150,750
Internal combustion	928	1,911	2,355	2,645	2,682	2,817	2,961	3,005
Production per kilowatt of installed capacity (kilowatt-hours) 5	3,552	4,776	4,779	4,891	4,527	4,484	4,384	4,459

n.a. Not available. 1 Distributed to other publicly owned classes.

2 Includes small percentage from wood and waste and also, in past few years, from nuclear fuel.

3 Comprises production and capacity of industrial electric power plants of 100 kilowatts and over, including amounts for stationary electric power plants of railroads and railways.

4 Each prime mover type in combination plants counted separately. 5 Capacity in service at end of year.

Source: Federal Power Commission; annual summaries, industrial electric power summaries, related monthly reports, and records.

No. 721. ELECTRIC UTILITIES—INSTALLED GENERATING CAPACITY AND ELECTRIC ENERGY PRODUCTION, BY STATES: 1950 TO 1961

[Installed capacity as of December 31; production for years ending December 31]

STATE	INSTALLED CAPACITY (1,000 kw.)				ENERGY PRODUCTION (1,000,000 kw.-hr.)			
	1950	1955	1960	1961	1950	1955	1960	1961
	68,919	114,472	168,002	180,668	329,141	547,038	753,350	792,039
United States¹								
New England	4,052	5,271	7,045	7,437	16,211	22,610	28,808	30,814
Maine	415	623	743	749	1,680	2,405	2,966	3,022
New Hampshire	308	474	762	732	1,329	1,718	2,188	2,541
Vermont	204	261	261	266	735	981	842	783
Massachusetts	1,653	2,167	2,971	3,254	6,588	9,461	13,309	14,557
Rhode Island	359	401	427	431	1,656	1,955	1,690	1,564
Connecticut	1,022	1,345	1,880	2,004	4,223	6,091	7,804	8,346
Middle Atlantic	13,225	18,218	25,536	27,824	63,372	86,140	112,749	121,346
New York	6,257	8,469	11,821	13,430	29,452	39,533	51,897	57,357
New Jersey	2,053	2,914	4,538	4,824	9,921	12,306	17,730	18,351
Pennsylvania	4,916	6,835	9,178	9,570	24,000	34,301	43,122	44,638
East North Central	16,083	25,976	36,780	38,466	75,349	125,853	165,101	168,516
Ohio	4,430	7,459	10,612	10,767	21,967	35,955	49,489	48,488
Indiana	2,142	4,351	6,506	6,740	10,374	21,193	30,966	32,862
Illinois	4,506	6,055	9,354	9,720	20,686	35,997	43,085	44,643
Michigan	3,222	4,590	6,758	7,427	15,316	22,365	27,672	28,312
Wisconsin	1,783	2,622	3,490	3,812	7,006	10,343	13,888	14,212
West North Central	5,024	7,930	11,538	12,441	19,237	30,463	43,734	47,123
Minnesota	1,151	1,764	2,434	2,443	4,549	6,642	9,613	10,241
Iowa	1,173	1,554	2,011	2,120	4,428	6,212	7,927	8,486
Missouri	958	1,743	2,697	3,131	3,718	6,952	10,552	11,628
North Dakota	187	264	666	666	660	963	1,780	2,222
South Dakota	169	491	545	575	536	1,399	1,700	1,714
Nebraska	572	762	1,224	1,338	2,011	2,816	4,351	4,430
Kansas	814	1,353	1,980	2,167	3,335	5,478	7,810	8,401
South Atlantic	8,857	15,131	22,696	24,460	43,604	71,220	103,636	110,310
Delaware	28	224	425	491	20	1,366	2,262	2,296
Maryland	1,009	1,373	2,077	2,312	5,040	5,845	9,240	9,727
District of Columbia	508	553	533	537	1,669	1,627	976	826
Virginia	1,204	1,951	3,570	3,863	6,238	9,380	18,285	19,165
West Virginia	1,256	2,177	3,217	3,152	7,821	14,239	14,013	16,857
North Carolina	1,760	3,505	4,397	4,968	9,829	15,592	20,000	21,111
South Carolina	847	1,652	2,249	2,271	2,910	5,870	10,238	10,578
Georgia	1,156	1,675	2,236	2,278	5,235	7,705	10,655	10,091
Florida	999	2,062	3,992	4,588	4,847	9,593	17,907	19,659
East South Central	4,464	11,657	16,614	17,563	24,606	66,530	87,691	88,987
Kentucky	904	2,745	3,362	3,382	4,390	17,693	19,899	19,970
Tennessee	1,670	4,628	7,521	7,484	9,379	24,625	40,071	38,025
Alabama	1,690	3,654	4,700	5,666	9,577	21,348	24,594	27,959
Mississippi	200	631	1,032	1,031	1,260	2,864	3,127	3,033
West South Central	4,717	9,449	16,401	18,116	22,515	40,823	64,608	67,462
Arkansas	450	1,165	1,188	1,512	1,975	4,909	5,244	5,237
Louisiana	909	1,594	2,934	3,470	4,936	6,677	11,865	12,628
Oklahoma	723	1,260	2,225	2,393	2,927	5,337	8,299	8,688
Texas	2,636	5,430	10,054	10,732	12,676	23,000	39,200	40,910
Mountain	3,445	6,106	8,700	9,314	16,497	24,155	36,611	38,416
Montana	442	925	1,353	1,430	3,136	4,696	5,992	6,780
Idaho	445	781	1,255	1,255	2,538	3,907	6,165	5,595
Wyoming	139	236	382	550	595	724	1,588	1,966
Colorado	464	959	1,817	1,329	1,856	3,719	5,671	5,820
New Mexico	281	450	802	842	1,014	1,765	3,041	3,242
Arizona	843	1,626	2,265	2,432	3,489	5,535	8,562	9,272
Utah	235	523	606	607	659	2,377	3,038	3,051
Nevada	506	597	720	889	3,210	1,431	2,655	2,691
Pacific ¹	9,054	14,733	22,690	25,046	47,751	79,245	110,412	119,064
Washington	2,765	4,074	7,215	8,174	17,371	24,030	34,153	37,176
Oregon	973	2,046	2,614	2,800	5,545	12,703	12,425	12,444
California	5,316	8,612	12,862	14,072	24,836	42,512	63,834	69,444

¹ Excludes Alaska and Hawaii. For 1961: Total utility capacity: Alaska, 137,010 kw., and Hawaii, 504,277 kw.; total utility production: Alaska, 430 million kw.-hr., and Hawaii, 1,833 million kw.-hr.

Source: Federal Power Commission; annual summaries and related monthly reports.

Installed Generating Capacity

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No. 722. INSTALLED GENERATING CAPACITY OF ELECTRIC UTILITIES AND INDUSTRIAL PLANTS, BY TYPE OF PRIME MOVER AND CLASS OF OWNERSHIP—STATES: 1961

[In thousands of kilowatts. As of December 31]

STATE	Total	TYPE OF PRIME MOVER				CLASS OF OWNERSHIP OF ELECTRIC UTILITIES			Industrial plants	
		Electric utilities and industrial		Electric utilities		Total	Privately owned	Publicly owned		
		Fuel	Hydro	Fuel	Hydro			Municipal		
United States ¹	198,417	162,224	36,193	145,187	35,481	180,668	136,749	12,205	31,714	17,750
New England	8,599	7,081	1,518	6,184	1,253	7,437	7,182	217	38	1,162
Maine	1,110	614	495	399	350	749	729	4	17	360
New Hampshire	820	376	444	335	397	732	728	4	—	88
Vermont	288	90	199	80	186	266	251	16	—	22
Massachusetts	3,731	3,504	227	3,068	186	3,254	3,100	144	9	477
Rhode Island	457	454	3	429	2	431	425	2	5	26
Connecticut	2,192	2,043	149	1,873	132	2,004	1,948	49	8	188
Middle Atlantic	30,049	26,197	3,852	24,044	8,780	27,824	25,082	240	2,502	2,225
New York	13,958	10,550	3,407	10,089	3,341	13,430	10,842	96	2,492	538
New Jersey	5,151	5,142	8	4,818	6	4,824	4,768	59	2	327
Pennsylvania	10,941	10,505	436	9,137	433	9,570	9,478	85	8	1,370
East North Central	42,743	41,819	924	37,635	830	38,466	35,967	2,061	438	4,277
Ohio	11,990	11,982	8	10,762	5	10,767	10,211	542	14	1,223
Indiana	7,558	7,526	31	6,709	31	6,740	6,411	329	—	818
Illinois	10,377	10,336	41	9,681	38	9,720	9,333	349	37	657
Michigan	8,621	8,204	417	7,048	380	7,427	6,621	698	109	1,194
Wisconsin	4,197	3,771	426	3,436	376	3,812	3,391	143	277	386
West North Central	13,161	11,467	1,694	10,789	1,652	12,441	7,909	2,038	2,494	720
Minnesota	2,813	2,628	186	2,291	152	2,443	1,967	379	97	370
Iowa	2,247	2,109	138	1,982	138	2,120	1,616	337	167	127
Missouri	3,248	2,855	393	2,739	393	3,131	2,368	432	331	117
North Dakota	679	279	400	266	400	666	184	14	467	14
South Dakota	585	254	331	252	323	575	212	41	323	10
Nebraska	1,345	1,105	240	1,098	240	1,338	278	1,060	7	—
Kansas	2,243	2,237	6	2,161	6	2,167	1,561	558	49	76
South Atlantic	27,586	23,791	3,795	20,847	3,613	24,460	21,690	1,342	1,429	3,126
Delaware	531	530	(²)	491	491	491	473	18	—	30
Maryland	2,581	2,309	272	2,041	271	2,312	2,247	59	7	260
Dist. of Columbia	559	556	3	534	3	537	534	—	3	22
Virginia	4,365	3,949	416	3,467	396	3,863	3,574	57	232	502
West Virginia	4,159	3,952	208	3,051	101	3,152	3,152	—	—	1,008
North Carolina	5,224	3,983	1,241	3,740	1,228	4,968	4,402	116	361	256
South Carolina	2,718	1,758	960	1,339	932	2,271	1,741	5	526	447
Georgia	2,567	1,914	653	1,639	640	2,278	2,035	16	228	289
Florida	4,882	4,840	42	4,546	42	4,588	3,443	1,071	74	295
East South Central	18,504	14,552	3,953	13,618	3,945	17,563	5,253	967	11,343	942
Kentucky	3,418	2,877	541	2,841	541	3,382	1,323	83	1,976	36
Tennessee	7,913	5,991	1,921	5,563	1,921	7,484	172	798	6,515	429
Alabama	6,044	4,554	1,400	4,183	1,482	5,666	2,813	(²)	2,852	378
Mississippi	1,130	1,130	—	1,031	—	1,031	946	86	—	99
West South Central	21,894	20,950	944	17,173	944	18,116	15,172	1,847	1,097	3,778
Arkansas	1,762	1,373	388	1,124	388	1,512	1,101	89	322	249
Louisiana	4,658	4,658	—	3,479	—	3,479	3,127	352	—	1,170
Oklahoma	2,442	2,277	165	2,228	165	2,393	1,902	141	291	49
Texas	13,031	12,642	390	10,342	390	10,732	8,932	1,265	484	2,301
Mountain	10,074	5,253	4,821	4,496	4,819	9,314	5,561	305	3,448	760
Montana	1,446	131	1,315	115	1,315	1,430	930	—	500	16
Idaho	1,295	44	1,251	5	1,250	1,255	1,033	14	208	40
Wyoming	552	338	213	316	213	530	309	2	219	22
Colorado	1,426	1,173	253	1,076	253	1,329	913	164	252	98
New Mexico	925	901	25	817	25	842	678	69	94	83
Arizona	2,639	1,659	980	1,452	980	2,432	953	2	1,477	207
Utah	854	752	102	506	101	607	536	53	19	247
Nevada	937	255	682	208	681	889	210	1	679	48
Pacific ¹	25,806	11,112	14,694	10,401	14,645	25,046	12,932	3,189	8,925	761
Washington	8,493	532	7,961	240	7,934	8,174	1,093	1,000	6,081	319
Oregon	2,986	362	2,624	196	2,604	2,800	981	51	1,767	186
California	14,327	10,218	4,109	9,965	4,107	14,072	10,858	2,138	1,076	255

¹ Excludes Alaska and Hawaii. Total utility capacity: Alaska, 137,010 kw., and Hawaii, 504,277 kw.

² Less than 500 kw.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 723. ELECTRIC ENERGY—PRODUCTION BY ELECTRIC UTILITIES AND INDUSTRIAL PLANTS, BY TYPE OF PRIME MOVER AND CLASS OF OWNERSHIP, BY STATES: 1961

[In millions of kilowatt-hours. For year ending December 31]

STATE	Total	TYPE OF PRIME MOVER				CLASS OF OWNERSHIP OF ELECTRIC UTILITIES			Industrial plants	
		Electric utilities and industrial		Electric utilities		Total	Pri-vately owned	Publicly owned		
		Fuel	Hydro	Fuel	Hydro					
United States ¹	878,711	723,497	155,215	640,189	151,850	792,039	604,883	38,753	148,403	86,673
New England	34,698	28,918	5,780	26,335	4,479	30,814	30,081	606	127	3,884
Maine	4,818	2,213	2,605	1,272	1,750	3,022	2,966	16	40	1,796
New Hampshire	2,919	1,731	1,188	1,554	987	2,541	2,530	11	-----	378
Vermont	859	88	771	75	708	783	736	47	-----	76
Massachusetts	15,601	14,735	816	13,869	687	14,557	14,095	427	34	1,044
Rhode Island	1,648	1,640	8	1,557	7	1,564	1,526	5	33	83
Connecticut	8,853	8,460	393	8,006	340	8,346	8,227	99	20	508
Middle Atlantic	130,444	110,774	19,670	101,995	19,352	121,346	107,069	694	13,584	9,098
New York	59,597	41,435	18,162	39,483	17,869	57,357	43,499	301	13,556	2,241
New Jersey	20,649	20,630	19	19,341	11	19,361	19,188	155	8	1,298
Pennsylvania	50,198	48,709	1,489	43,166	1,472	44,638	44,381	238	19	5,560
East North Central	188,030	183,907	4,123	164,885	3,631	168,516	161,210	5,538	1,768	19,513
Ohio	54,304	54,283	21	48,481	6	48,488	46,932	1,500	56	5,816
Indiana	36,720	36,614	106	32,756	106	32,862	31,984	878	-----	3,858
Illinois	47,480	47,283	197	44,466	177	44,643	43,598	925	120	2,838
Michigan	33,583	31,799	1,784	26,676	1,636	28,312	25,920	1,885	507	5,271
Wisconsin	15,942	13,928	2,014	12,506	1,706	14,212	12,776	350	1,086	1,730
West North Central	50,694	44,338	6,355	40,909	6,214	47,123	34,036	4,574	8,513	3,571
Minnesota	12,095	11,368	726	9,630	603	10,241	9,229	785	227	1,853
Iowa	9,155	8,258	897	7,891	895	8,486	7,266	692	528	669
Missouri	12,153	10,913	1,240	10,389	1,240	11,028	9,816	939	873	525
North Dakota	2,285	878	1,407	816	1,407	2,222	521	11	1,691	62
South Dakota	1,732	590	1,142	588	1,126	1,714	576	17	1,121	18
Nebraska	4,444	3,516	928	3,502	928	4,430	3,555	875	14	430
Kansas	8,830	8,814	16	8,385	16	8,401	6,620	1,574	108	-----
South Atlantic	127,206	118,324	13,882	97,266	13,044	110,310	101,739	3,991	4,580	16,896
Delaware	2,463	2,463	2,296	2,296	2,296	2,242	54	-----	167	-----
Maryland	11,107	9,987	1,139	8,589	1,138	9,727	9,588	116	24	1,379
Dist. of Columbia	856	850	5	821	5	826	821	-----	5	29
Virginia	21,511	20,327	1,184	18,057	1,108	19,165	18,455	202	509	2,346
West Virginia	22,495	21,450	1,045	16,382	475	16,857	16,857	5,638	5,638	-----
North Carolina	22,523	17,810	4,713	16,435	4,676	21,111	19,708	150	1,254	1,412
South Carolina	12,730	9,486	3,244	7,429	3,149	10,578	8,612	13	1,953	2,152
Georgia	12,012	9,724	2,288	7,863	2,228	10,091	9,504	497	1,020	-----
Florida	21,510	21,247	263	19,395	263	19,659	15,864	3,458	339	1,852
East South Central	94,063	76,022	18,041	70,971	18,016	88,987	23,515	3,470	62,002	5,076
Kentucky	20,091	17,545	2,545	17,425	2,545	19,970	5,307	240	14,424	120
Tennessee	40,241	31,493	8,749	29,276	8,749	38,025	801	3,047	34,177	2,217
Alabama	29,965	23,218	6,747	21,237	6,722	27,059	14,558	13,401	2,007	-----
Mississippi	3,766	3,766	3,033	3,033	2,850	183	-----	732	-----	-----
West South Central	89,844	86,213	3,631	63,832	3,630	67,462	58,229	4,865	4,368	22,382
Arkansas	6,425	5,030	1,395	3,842	1,395	5,237	3,873	158	1,206	1,189
Louisiana	19,831	19,831	12,628	12,628	12,628	11,831	797	-----	7,203	-----
Oklahoma	8,918	7,918	1,002	7,686	1,002	8,688	7,001	289	1,390	230
Texas	54,670	53,436	1,234	39,676	1,234	40,910	35,525	3,622	1,703	13,700
Mountain	41,878	28,348	18,529	19,891	18,525	38,416	25,561	1,024	11,832	3,461
Montana	6,829	330	6,498	281	6,498	6,780	4,634	2,146	49	-----
Idaho	5,740	145	5,595	(2)	5,595	5,595	4,037	73	885	145
Wyoming	2,096	1,463	633	1,333	633	1,966	1,329	(2)	637	130
Colorado	6,259	5,423	836	4,985	835	5,820	4,445	564	811	439
New Mexico	3,677	3,625	52	3,100	52	3,242	2,678	169	395	434
Arizona	10,176	7,242	2,934	6,338	2,934	9,272	4,072	9	5,191	905
Utah	4,271	4,039	233	2,820	231	3,051	2,794	207	50	1,220
Nevada	2,830	1,081	1,748	943	1,748	2,691	971	3	1,717	139
Pacific ¹	121,855	56,651	65,204	54,108	64,958	119,064	63,442	13,992	41,629	2,791
Washington	38,285	927	37,358	-1	37,177	37,176	4,537	3,700	28,940	1,109
Oregon	13,064	586	12,478	31	12,413	12,444	3,615	177	8,652	620
California	70,506	55,137	15,368	54,076	15,368	69,448	55,291	10,116	4,037	1,062

¹ Excludes Alaska and Hawaii. Total utility production: Alaska, 430 million kw.-hr., and Hawaii, 1,833 million kw.-hr.

² Less than 500,000.

Water Power

535

No. 724. WATER POWER—DEVELOPED, 1920 TO 1961, AND ESTIMATED UNDEVELOPED, 1962, BY STATES

[In thousands of kilowatts. As of December 31. Excludes Alaska and Hawaii, except for estimated undeveloped water power]

STATE	DEVELOPED WATER POWER (capacity of actual installations only)										Estimated undeveloped water power, Jan. 1, 1962	
	Electric utilities only		Electric utilities and industrial plants									
			1939		1950		1960		1961			
	1920	1930	Total	Utilities	Total	Utilities	Total	Utilities	Total	Utilities		
United States	3,704	8,585	12,075	11,004	18,675	17,675	33,092	32,367	36,193	35,481	112,700	
New England	291	753	1,115	833	1,239	971	1,520	1,255	1,518	1,253	2,800	
Maine	40	174	301	188	391	270	495	351	495	350	1,400	
New Hampshire	43	212	292	235	312	262	445	398	444	397	500	
Vermont	49	156	173	158	192	177	199	186	199	186	400	
Massachusetts	114	129	228	161	223	168	227	186	227	186	300	
Rhode Island	2	2	14	3	11	3	3	2	3	2	200	
Connecticut	44	79	107	88	107	89	151	132	149	132	200	
Middle Atlantic	662	1,290	1,633	1,563	1,678	1,602	2,472	2,391	3,852	3,780	5,700	
New York	540	1,074	1,229	1,165	1,225	1,155	2,028	1,952	3,407	3,341	2,200	
New Jersey	1	1	6	3	9	6	8	6	8	6	200	
Pennsylvania	120	215	399	395	444	441	436	433	436	433	3,300	
East North Central	372	602	790	703	901	828	929	832	924	830	3,000	
Ohio	17	13	16	12	16	12	9	6	8	5	300	
Indiana	11	35	38	35	37	37	31	31	31	31	700	
Illinois	43	50	51	49	54	49	42	38	41	38	1,200	
Michigan	167	258	368	344	399	384	419	381	417	380	400	
Wisconsin	134	247	318	263	396	347	427	376	426	376	400	
West North Central	257	279	537	501	629	577	1,594	1,552	1,634	1,652	6,000	
Minnesota	88	122	158	126	181	138	186	152	186	152	200	
Iowa	138	124	127	127	137	137	136	136	138	138	400	
Missouri	12	13	151	151	151	151	298	293	393	393	2,800	
North Dakota			(1)				400	400	400	400	200	
South Dakota	5	4	4	4	11	3	333	324	331	323	1,400	
Nebraska	7	11	87	86	142	142	240	240	240	240	700	
Kansas	7	6	9	7	6	6	6	6	6	6	300	
South Atlantic	589	1,603	2,224	1,803	2,767	2,297	3,773	3,592	3,795	3,613	8,900	
Delaware			(1)		1	1	1			(1)	400	
Maryland	1	272	273	271	272	271	272	271	272	271	271	
District of Columbia		2	3	2	3	3	3	3	3	3	3	
Virginia	45	83	204	182	207	183	416	396	416	396	1,700	
West Virginia	9	56	209	101	208	101	208	101	208	101	2,300	
North Carolina	144	397	651	400	962	662	1,320	1,206	1,241	1,228	1,300	
South Carolina	231	506	520	495	679	653	958	932	960	932	900	
Georgia	155	271	349	337	425	412	653	640	653	640	2,200	
Florida	4	14	14	14	13	13	42	42	42	42	100	
East South Central	170	863	1,270	1,140	2,729	2,721	3,750	3,742	3,953	3,945	4,300	
Kentucky		105	111	111	271	271	541	541	541	541	1,700	
Tennessee	97	127	432	310	1,238	1,238	1,910	1,910	1,921	1,921	400	
Alabama	72	632	727	719	1,220	1,212	1,299	1,291	1,490	1,482	1,900	
Mississippi											300	
West South Central	4	19	140	139	466	463	944	944	944	944	3,800	
Arkansas	1	11	67	67	148	145	388	388	388	388	1,400	
Louisiana			1								100	
Oklahoma	1	2	2	2	74	74	165	165	165	165	800	
Texas	2	6	71	71	245	245	391	390	390	390	1,500	
Mountain	487	784	1,583	1,581	2,286	2,282	4,621	4,618	4,821	4,819	24,100	
Montana	212	300	321	321	427	426	1,235	1,235	1,315	1,315	5,800	
Idaho	135	225	257	257	441	440	1,251	1,250	1,251	1,250	9,800	
Wyoming	2	12	47	47	79	79	189	189	213	213	900	
Colorado	48	52	67	66	92	91	253	253	253	253	2,000	
New Mexico	1	1	1	1	25	25	25	25	25	25	200	
Arizona	23	87	293	293	541	541	980	980	980	980	4,300	
Utah	58	98	93	92	94	94	100	100	102	101	1,100	
Nevada	9	9	505	504	587	586	587	586	682	681	-----	
Pacific	872	2,391	2,783	2,741	5,979	5,933	13,490	13,441	14,694	14,645	54,100	
Washington	241	596	812	784	2,591	2,564	7,002	6,974	7,961	7,934	18,400	
Oregon	65	156	286	278	783	766	2,434	2,414	2,624	2,604	6,100	
California	566	1,640	1,685	1,680	2,606	2,604	4,054	4,052	4,109	4,107	9,800	
Alaska	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19,500	
Hawaii	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	300	

n.a. Not available. ¹ Less than 500.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 725. FEDERAL ELECTRIC UTILITY PROJECTS—INSTALLED CAPACITY AND INVESTMENT ALLOCATED TO ELECTRIC PLANT: 1955 TO 1961

[As of June 30. Beginning 1960, includes Alaska. Comprises only the electricity generating plant of these projects and excludes projects not primarily manufacturing electricity (e.g., West Point, Annapolis). Investments represent allocation to power projects for capital equipment and improvements. Reserves for depreciation have not been deducted]

PROJECT GROUP OR SYSTEM	INSTALLED CAPACITY (1,000 kw.)			INVESTMENT ALLOCATED ¹ (\$1,000)		
	1955	1960	1961	1955	1960	1961
Total.....	15,033	22,616	23,637	3,811,843	5,397,699	5,630,203
Percent capacity of all electric utilities.....	13.1	13.5	13.1			
Central Valley: Bureau of Reclamation.....	522	630	630	134,081	137,861	156,712
Columbia Basin.....	3,619	6,063	6,219	1,020,000	1,007,100	1,035,245
Bonneville Power Administration (transmission).....				368,914	479,913	504,685
Bureau of Reclamation.....	2,259	2,282	2,282	218,084	277,200	277,210
Corps of Engineers.....	1,360	3,781	3,937	433,602	849,987	853,350
Hoover and Parker-Davis: Bureau of Reclamation.....	1,595	1,595	1,595	205,598	208,635	212,517
Missouri Basin.....	687	1,142	1,429	360,577	661,373	692,961
Bureau of Reclamation.....	362	397	444	214,278	304,212	325,318
Corps of Engineers.....	325	745	985	155,209	357,161	387,043
Southeastern Power Administration.....	1,031	1,271	1,283	250,142	410,111	409,336
Southeastern Power Administration (transmission).....				63	88	88
Corps of Engineers.....	1,031	1,271	1,283	250,079	410,023	409,248
Southwestern Power Administration.....	426	601	651	144,629	230,192	237,773
Southwestern Power Administration (transmission).....				23,444	27,108	27,832
Corps of Engineers.....	426	601	651	121,185	203,084	209,941
Tennessee Valley Authority.....	7,005	11,032	11,532	1,634,057	2,054,316	2,201,690
Other projects.....	148	282	298	44,159	88,110	92,974
Bureau of Reclamation.....	83	218	234	20,483	61,941	62,805
Corps of Engineers.....	18	18	18	11,534	11,846	11,846
Bureau of Indian Affairs.....	15	14	14	6,342	7,602	7,602
International Boundary and Water Commission.....	32	32	32	5,500	6,721	6,721

¹ Includes estimates.

Source: Federal Power Commission.

No. 726. RURAL ELECTRIFICATION ADMINISTRATION—ELECTRIC PROGRAM,
SUMMARY OF OPERATIONS: 1935 TO 1962

[Includes data from date of first loan to borrowers in Virgin Islands (1940), Alaska (1941), and Puerto Rico (1952)]

YEAR	LOANS APPROVED, CUMULATIVE, DEC. 31 ¹		SYSTEMS IN OPERATION, DEC. 31 ²			BORROWERS' OPERATIONS DURING YEAR ³						
	Borrow- ers ²	Amount	Sys- tems ⁴	Miles ener- gized ⁵	Con- sumers served ⁶	Energy gen- erated	Energy pur- chased	Energy distrib- uted	Revenue	Average monthly con- sumption per consumer		
										All con- sumers	Resi- dential con- sumers ⁸	
	Number	Mil. dot.	7	Number	2	1,000 miles	1,000	Mil. kw.-hr.	Mil. kw.-hr.	Mil. kw.-hr.	Kw.- hr.	Kw.- hr.
1935.....								n.a.	n.a.	n.a.	n.a.	n.a.
1940.....	791	351	685	268	674	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1945.....	961	667	848	450	1,409	258	2,345	2,136	74	n.a.	n.a.	n.a.
1950.....	1,076	2,312	1,007	1,089	3,413	1,077	8,185	7,779	241	180	147	
1955.....	1,077	3,125	1,026	1,362	4,251	3,255	18,457	19,200	455	306	242	
1957.....	1,079	3,634	1,030	1,405	4,466	3,291	23,335	23,745	531	364	283	
1958.....	1,081	3,847	1,030	1,424	4,596	3,482	26,084	26,466	571	393	311	
1959.....	1,085	4,011	1,032	1,446	4,722	4,464	29,366	30,403	627	432	334	
1960.....	1,087	4,256	1,038	1,465	4,826	4,922	32,124	33,336	673	466	357	
1961.....	1,091	4,509	1,038	1,483	4,956	5,118	34,775	35,988	716	487	375	
1962 (prel.)....	1,096	4,786	1,041	1,503	5,080	6,164	37,968	39,538	776	519	400	

n.a. Not available.

¹ Net; i.e., excludes loans rescinded. For years prior to 1948, includes amounts not yet under loan contract.

² Organizations, mainly cooperatives, to which loans for extending central station electric service in rural areas are made.

³ Includes data at time of repayment of loan for borrowers whose loans have been repaid in full. As of Dec. 31, 1962, there were 80 such borrowers, with 17,786 miles energized and 104,795 consumers served.

⁴ Rural electric distribution, generation, and transmission systems operated by REA borrowers.

⁵ Total miles of electric distribution and transmission line in service.

⁶ Through 1954, this item was headed "Consumers connected." The change was a result of a revised definition of a consumer as reported by REA borrowers, effective Jan. 1, 1955. It resulted in a downward adjustment in the national total of about 60,000 for 1955, chiefly through elimination of idle services.

⁷ Includes energy sales and revenues of power sold by one REA borrower to another.

⁸ Includes rural-nonfarm and farm consumers.

Source: Department of Agriculture, Rural Electrification Administration; published in *Agricultural Statistics*.

No. 727. ELECTRIC LIGHT AND POWER INDUSTRY—ENERGY GENERATED, SALES, REVENUE, AND CUSTOMERS: 1940 TO 1962

[Beginning 1960, includes Alaska and Hawaii. Beginning 1960, the classification of "rural" is allocated to the appropriate other classes of service]

CLASS	1940	1950	1955	1960	1961	1962
Energy generated ¹ million kilowatt-hours	141,837	329,141	547,038	756,296	795,295	835,490
Sales to ultimate customers do	118,643	280,539	480,921	683,199	720,728	776,088
Residential or domestic do	23,317	67,030	120,524	196,400	209,021	226,414
Rural (distinct rural rates) do	1,991	7,400	10,751			
Commercial and industrial:						
Small light and power do	22,373	50,446	76,254	114,806	134,864	144,095
Large light and power do	59,557	139,065	253,711	344,799	347,427	373,916
All other do	11,405	16,598	19,681	27,194	29,416	31,663
Revenue from ultimate customers \$1,000,000	2,440	5,086	8,020	11,516	12,169	13,025
Residential or domestic do	896	1,932	3,187	4,856	5,116	5,458
Rural (distinct rural rates) do	49	158	229			
Commercial and industrial:						
Small light and power do	689	1,334	1,909	2,828	3,168	3,420
Large light and power do	631	1,405	2,360	3,384	3,370	3,591
All other do	174	258	336	498	515	556
Ultimate customers, Dec. 31 1,000	30,191	44,986	52,559	58,870	60,130	61,324
Residential or domestic do	24,952	37,533	44,409	51,446	52,569	53,649
Rural (distinct rural rates) do	686	1,596	1,648			
Commercial and industrial:						
Small light and power do	4,260	5,466	6,020	6,760	6,844	6,981
Large light and power do	178	235	311	454	515	441
All other do	115	157	171	210	202	253

¹ Figures obtained by Edison Electric Institute from Federal Power Commission, except that estimates by Edison Electric Institute included for Alaska and Hawaii.

² Preliminary.

Source: Edison Electric Institute, New York, N.Y.; annual report, *Statistical Bulletin*.

No. 728. CONSUMPTION OF FUELS BY ELECTRIC UTILITIES: 1920 TO 1962

[For years ending December 31. Excludes Alaska and Hawaii. Includes use of fuels for stand-by purposes. See also *Historical Statistics, Colonial Times to 1957*, series S 36-43]

YEAR	Net generation by fuel ¹	FUEL CONSUMED										
		Total coal equivalent	Coal			Oil	Gas	Per kilowatt-hour				
			Total ²	Bituminous	Anthracite			Coal	Oil	Gas		
			Mil. kwhr.	short tons	short tons	42-gal. bbl.	Mil. cu. ft.	Lb.	Gal.	Cu. ft.		
1920	1,000	1,000	23,495	35,791	31,640	30,099	1,540	12,690	22,136	3.0	0.264	36.9
1925			39,443	40,014	35,615	33,803	1,812	9,794	45,472	2.0	0.165	23.9
1930			59,583	47,545	40,278	38,130	2,148	8,805	119,553	1.60	0.132	19.0
1935			50,689	40,797	32,715	30,936	1,779	11,287	124,118	1.44	0.118	17.0
1940	93,963	62,942	51,474	47,721	2,348	16,325	180,096	1.34	0.112	16.5		
1945	142,331	92,042	74,725	70,621	3,122	20,228	326,212	1.30	0.109	16.5		
1950	232,813	138,421	91,871	86,855	3,600	75,420	628,919	1.19	0.094	14.1		
1955	433,786	206,929	143,759	138,883	3,209	75,274	1,153,280	0.95	0.085	12.1		
1956	478,487	223,733	158,279	153,492	3,296	72,711	1,239,311	0.94	0.085	11.9		
1957	501,098	232,576	160,769	156,055	3,363	79,693	1,336,141	0.93	0.083	11.7		
1958	504,497	228,136	155,724	151,756	2,786	77,668	1,372,853	0.90	0.081	11.5		
1959	571,883	254,525	168,423	164,431	2,629	88,263	1,628,509	0.89	0.079	11.1		
1960	607,142	266,064	176,634	173,882	2,751	85,340	1,724,762	0.88	0.078	10.9		
1961	640,189	276,369	182,121	179,612	2,509	85,736	1,825,117	0.86	0.076	10.8		
1962 (prel.)	³ 683,785	293,377	193,134	190,833	2,301	85,643	1,965,590	0.86	0.077	10.7		

¹ Beginning 1961, includes limited output by use of wood, waste, and nuclear fuel.

² Includes lignite.

³ Includes 2,270 million kw-hr. from nuclear stations and 229 million kw-hr. from wood and waste, and geothermal sources.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 729. ELECTRIC UTILITIES—BALANCE SHEET AND INCOME ACCOUNT OF PRIVATELY OWNED CLASS A AND B COMPANIES: 1940 TO 1961

[In millions of dollars. For years ending December 31. Includes Alaska, 1958 to 1960, and Hawaii, beginning 1959. Data cover reports of all companies with annual electric revenues over \$1,000,000, representing about 98 percent of the privately owned industry. See also *Historical Statistics, Colonial Times to 1957*, series V 128-142]

ITEM	1940	1950	1956	1957	1958	1959	1960	1961
COMPOSITE BALANCE SHEET								
Assets and other debits	15,477	20,523	33,242	36,401	39,278	42,106	44,742	47,009
Utility plant	14,407	21,443	36,446	39,991	43,485	46,853	50,308	53,241
Accumulated provisions for depreciation and amortization	1,879	4,365	6,946	7,555	8,192	8,964	9,852	10,692
Net utility plant	12,528	17,078	29,500	32,436	35,293	37,889	40,456	42,549
Other property and investments	1,380	1,235	937	970	1,008	1,058	1,004	1,083
Current and accrued assets	1,123	2,058	2,618	2,799	2,773	2,944	3,066	3,151
Deferred debits	446	152	187	187	204	215	216	226
Liabilities and other credits	15,477	20,523	33,242	36,401	39,278	42,106	44,742	47,009
Capital stock	6,471	7,621	10,934	11,434	12,074	12,636	13,322	13,801
Other paid-in capital	279	589	1,194	1,323	1,483	1,729	1,747	1,904
Earned surplus	860	1,346	2,414	2,718	3,042	3,356	3,736	4,011
Long-term debt	6,871	9,179	15,211	17,037	18,558	19,818	21,035	22,028
Current and accrued liabilities	692	1,527	2,627	2,803	2,782	2,966	3,112	3,286
Deferred credits and operating reserves	261	195	257	255	263	274	277	282
Contributions in aid of construction	43	66	122	137	151	169	188	201
Accumulated deferred income taxes			483	694	920	1,168	1,325	1,496
COMPOSITE INCOME ACCOUNT								
Electric operating revenues	2,404	4,784	7,780	8,308	8,708	9,498	10,116	10,666
Electric operating expenses	1,687	3,928	6,173	6,603	6,856	7,455	7,197	8,322
Net electric operating revenues	737	956	1,607	1,705	1,852	2,040	2,109	2,344
Income from electric plant leased to others	8	5	3	3	3	2	2	2
Electric utility operating income	744	961	1,610	1,708	1,855	2,042	2,201	2,346
Other utility operating income	61	72	137	144	161	180	198	217
Total utility operating income	805	1,033	1,747	1,852	2,016	2,222	2,397	2,563
Other income	68	68	61	64	58	64	79	67
Total income	873	1,101	1,808	1,916	2,074	2,286	2,476	2,630
Income deductions	325	279	476	503	555	630	693	755
Net income	548	822	1,332	1,413	1,519	1,656	1,783	1,875

Source: Federal Power Commission; annual report, *Statistics of Electric Utilities in the United States*.

No. 730. GAS UTILITY AND PIPELINE INDUSTRY—COMPOSITE BALANCE SHEET AND INCOME ACCOUNT: 1940 TO 1961

[In millions of dollars. Beginning 1960, includes Hawaii, and 1961, Alaska. Represents companies owned by private investors. Excludes operations of companies distributing gas in bottles or in tanks]

ITEM	1940	1945	1950	1955	1958	1959	1960	1961
COMPOSITE BALANCE SHEET								
Assets and other debits	4,980	5,610	9,010	15,435	20,730	22,845	24,570	26,420
Utility plant and adjustments	4,330	4,770	7,620	13,305	17,465	19,200	20,835	22,260
Investment and fund accounts	200	185	360	525	1,180	1,300	1,380	1,635
Current and accrued assets	360	590	970	1,465	1,905	2,150	2,185	2,330
Deferred debits ¹	90	65	60	140	180	195	170	195
Liabilities and other credits	4,980	5,610	9,010	15,435	20,730	22,845	24,570	26,420
Capital stock	1,740	1,705	2,405	3,905	5,005	5,490	5,785	6,235
Long-term debt	1,575	1,495	3,145	5,900	8,005	8,740	9,130	10,020
Current and accrued liabilities	245	350	735	1,390	1,960	2,195	2,420	2,450
Reserve for depreciation, retirement, depletion, etc.	870	1,400	1,740	2,775	3,690	4,065	4,570	5,025
Capital surplus	n.a.	120	135	200	180	160	145	175
Retained income	n.a.	375	720	1,040	1,480	1,660	1,880	1,865
Other liabilities and credits	550	165	130	225	410	535	640	650
COMPOSITE INCOME ACCOUNT								
Operating revenues	1,054	1,363	2,553	5,063	6,856	7,600	8,696	9,282
Operating revenue deductions	839	1,152	2,182	4,398	5,966	6,696	7,587	8,124
Net operating revenues	215	211	371	665	890	994	1,109	1,158
Income from utility plant leased to others	-1	(2)	1	2	2	3	3	6
Utility operating income	214	211	372	667	892	997	1,112	1,164
Other income (nonoperating)	9	15	33	48	84	78	110	90
Gross income	223	226	405	715	976	1,075	1,222	1,254
Income deductions	73	74	88	206	308	343	392	436
Net income	145	152	317	509	668	732	830	818

n.a. Not available.

¹Includes capital stock discount and expense and reacquired securities. Subsequent to 1958, reacquired securities are deducted from the appropriate capital account.

²Less than \$500,000.

Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

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No. 731. GAS UTILITY INDUSTRY—CUSTOMERS AND REVENUES, BY CLASS OF SERVICE: 1935 TO 1962

[Beginning 1960, includes Hawaii. Beginning 1961, natural gas only included for Alaska. Covers natural, manufactured, mixed, and liquid petroleum gas. Based on questionnaire mailed to all privately owned gas utilities and municipally owned gas departments in the United States, except those with annual revenues less than \$25,000, which in the aggregate account for only a negligible portion of the industry]

YEAR	CUSTOMERS (1,000) ¹					REVENUES (\$1,000,000) ²				
	Total	Residen-tial	Com-mercial	Indus-trial	Other	Total	Residen-tial	Com-mercial	Indus-trial	Other
1935.....	15,819	14,725	1,014	72	8	727	503	91	130	2
1940.....	17,600	16,381	1,138	73	8	872	573	112	182	
1945.....	19,977	18,607	1,278	80	12	1,153	705	149	281	18
1950.....	24,001	22,146	1,739	100	16	1,948	1,177	266	480	26
1955.....	28,479	26,283	2,048	121	27	3,450	2,007	424	938	81
1957.....	30,476	28,101	2,211	132	32	4,134	2,379	506	1,150	99
1958.....	31,242	28,787	2,287	134	35	4,568	2,658	571	1,229	111
1959.....	32,066	29,530	2,364	136	36	5,065	2,870	633	1,431	131
1960.....	33,054	30,418	2,458	140	38	5,617	3,177	723	1,563	153
1961.....	33,831	31,118	2,529	147	37	5,993	3,377	789	1,658	169
1962 (prel.)	34,650	31,878	2,586	157	38	6,417	3,568	871	1,808	170

¹ Yearly averages.

² Excludes revenues from sales for resale.

Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

No. 732. UTILITY GAS MAINS—MILEAGE, BY TYPE OF GAS AND TYPE OF MAIN: 1945 TO 1962

[As of December 31. Beginning 1960, includes Hawaii. Beginning 1961, natural gas only included for Alaska. Excludes service pipe. Data not adjusted to common diameter equivalent]

TYPE OF GAS AND MAIN	1945	1950	1955	1957	1958	1959	1960	1961	1962 (prel.)
All types, total.....	310,670	387,470	496,740	548,820	571,500	599,830	630,950	658,960	687,300
Field and gathering.....	27,000	32,850	45,680	50,020	52,010	54,130	55,850	56,730	50,500
Transmission.....	82,190	113,050	145,970	160,110	165,380	174,280	183,660	191,840	200,200
Distribution.....	201,480	241,570	305,090	338,690	354,130	371,420	391,440	410,390	427,600
Natural gas.....	218,000	314,480	448,770	514,960	540,790	573,950	607,980	637,120	667,180
Field and gathering.....	27,000	32,850	45,680	50,020	52,010	54,130	55,850	56,730	59,500
Transmission.....	77,280	109,360	142,490	157,540	162,990	172,160	181,770	189,990	198,450
Distribution.....	113,720	172,270	260,600	307,400	325,790	347,660	370,380	390,400	409,230
Manufactured gas.....	72,000	55,420	11,980	6,350	4,400	1,810	1,570	1,510	1,500
Transmission.....	3,410	2,230	420	180	50	30	20	30	30
Distribution.....	68,590	53,190	11,540	6,170	4,410	1,750	1,550	1,480	1,470
Mixed gas.....	18,660	11,990	31,440	24,090	23,080	21,580	19,450	18,450	16,990
Transmission.....	1,480	1,370	2,990	2,320	2,250	2,070	1,860	1,810	1,710
Distribution.....	17,180	10,620	28,450	21,770	20,830	19,510	17,590	16,640	15,280
Liquefied petroleum gas.....	2,010	5,580	4,570	3,420	3,170	2,490	1,950	1,880	1,630
Transmission.....	20	90	70	70	70	20	10	10	10
Distribution.....	1,990	5,490	4,500	3,350	3,100	2,470	1,940	1,870	1,620

Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

No. 733. GAS UTILITY INDUSTRY—CUSTOMERS AND REVENUES, BY TYPE OF GAS,
CLASS OF SERVICE, AND STATES: 1961

[See headnote, table 731]

TYPE OF GAS AND STATE	CUSTOMERS (1,000) ¹					REVENUES (\$1,000,000) ²				
	Total	Resi- dential	Com- mer- cial	Indus- trial	Other	Total	Resi- dential	Com- mer- cial	Indus- trial	Other
United States³	33,830.5	31,118.2	2,528.9	146.7	36.7	5,993	3,377	789	1,658	169
Natural gas ⁴	31,660.9	29,092.5	2,396.2	136.6	35.6	5,699	3,151	754	1,626	167
Manufactured gas	146.1	134.5	9.8	1.7	0.1	19	14	3	2	(4)
Mixed gas	1,925.5	1,802.7	113.4	8.4	1.0	264	204	29	29	1
L.P. gas	98.0	88.5	9.5	(4)	(4)	11	8	3	(4)	(4)
New England	1,626.4	1,524.9	90.7	10.0	0.8	226	168	31	26	1
Connecticut	377.2	351.7	23.0	2.4	0.1	55	38	7	9	(4)
Maine	32.3	30.6	1.5	0.2		4	3	1	(4)	
Massachusetts	1,007.8	945.5	56.1	5.5	0.7	141	107	19	13	1
New Hampshire	37.9	35.4	2.3	0.2	(4)	5	4	1	(4)	(4)
Rhode Island	155.2	146.4	7.1	1.7	(4)	21	15	3	3	(4)
Vermont	16.0	15.3	0.7		(4)	1	1	(4)	(4)	
Middle Atlantic	7,661.0	7,099.0	522.8	29.1	10.1	1,135	771	153	194	12
New Jersey	1,531.9	1,394.0	131.8	6.1	(4)	210	153	33	24	(4)
New York	3,973.1	3,683.3	267.9	14.8	7.1	494	351	78	56	8
Pennsylvania	2,156.8	2,021.7	123.1	8.2	3.0	431	267	47	114	3
East North Central	7,513.4	6,972.7	503.9	28.9	7.9	1,519	944	201	359	15
Illinois	2,344.8	2,203.4	126.6	12.9	1.9	430	283	47	98	2
Indiana	805.9	740.3	62.9	2.5	0.2	153	81	20	52	(4)
Michigan	1,542.0	1,418.2	117.9	5.9	(4)	329	215	44	67	3
Ohio	2,248.1	2,076.6	160.9	4.8	5.8	505	300	77	121	7
Wisconsin	572.6	534.2	35.6	2.8	(4)	103	65	13	22	2
West North Central	2,743.0	2,500.1	225.4	16.6	0.9	565	314	85	150	16
Iowa	461.3	414.3	45.7	1.3	(4)	103	58	20	23	3
Kansas	545.2	495.8	45.9	3.3	0.2	101	44	12	40	5
Minnesota	497.1	461.8	32.0	3.2	0.1	122	75	17	30	1
Missouri	837.8	776.3	58.0	3.4	0.1	151	92	21	36	2
Nebraska	298.1	260.2	32.5	5.1	0.4	67	35	11	17	(4)
North Dakota	39.0	34.7	4.2	0.1		6	4	2	1	3
South Dakota	64.4	57.0	7.1	0.2	0.1	14	8	3	(4)	
South Atlantic	2,589.8	2,372.7	202.0	9.7	5.4	505	275	68	153	9
Delaware	65.5	61.9	3.5	0.1	(4)	12	7	1	3	(4)
Dist. of Columbia	177.5	156.9	18.4	0.9	1.3	28	20	7	(4)	1
Florida	254.3	235.5	18.1	0.3	0.4	53	14	8	30	1
Georgia	552.5	507.9	41.0	3.4	0.2	106	55	14	37	1
Maryland	572.0	533.9	35.6	1.7	0.8	93	70	9	14	(4)
North Carolina	136.4	119.0	16.0	1.4	(4)	37	14	5	16	1
South Carolina	101.0	89.1	11.1	0.5	0.3	26	9	4	14	(4)
Virginia	374.7	344.3	28.6	0.9	0.9	72	46	10	14	2
West Virginia	355.9	324.2	29.7	0.5	1.5	78	41	9	25	2
East South Central	1,515.4	1,368.9	137.1	4.9	4.5	323	145	44	124	10
Alabama	467.2	432.5	32.8	0.9	1.0	98	45	11	42	(4)
Kentucky	443.8	403.0	38.7	0.7	1.4	83	48	12	20	3
Mississippi	277.2	245.4	29.0	1.5	1.3	60	20	6	32	2
Tennessee	327.2	288.0	36.6	1.8	0.8	82	32	15	30	5
West South Central	3,924.6	3,543.0	346.3	30.0	5.3	652	241	61	323	27
Arkansas	313.2	271.3	39.7	2.1	0.1	62	23	9	20	1
Louisiana	713.2	656.5	52.8	2.8	1.1	146	37	7	98	4
Oklahoma	607.5	545.7	57.4	3.7	0.7	87	42	11	25	8
Texas	2,290.7	2,069.5	196.4	21.4	3.4	357	139	33	171	14
Mountain	1,329.7	1,187.8	135.0	5.1	1.8	265	119	42	97	7
Arizona	310.2	288.8	28.6	1.6	0.2	59	22	7	30	1
Colorado	407.2	359.4	47.2	0.5	0.1	74	37	16	19	1
Idaho	30.7	24.9	5.6	0.2	(4)	13	3	3	7	(4)
Montana	121.2	107.5	13.2	0.5	(4)	23	11	5	6	1
Nevada	27.5	26.2	1.2	0.1	(4)	11	3	1	6	(4)
New Mexico	181.4	162.9	15.8	1.6	1.1	37	15	4	15	3
Utah	174.6	159.0	15.2	0.4	(4)	35	21	3	12	(4)
Wyoming	67.9	59.1	8.2	0.2	0.4	12	6	2	3	1
Pacific³	4,927.2	4,549.1	365.7	12.4	(4)	802	400	99	231	72
California	4,653.0	4,314.7	328.9	9.4	(4)	726	371	84	199	72
Oregon	109.0	94.9	13.1	1.6		27	12	5	10	(4)
Washington	125.4	103.5	21.2	0.7	(4)	45	14	9	21	(4)
Alaska ⁴	0.1	0.1	(4)	(4)	(4)	(4)	(4)	(4)	1	
Hawaii	39.7	35.9	2.5	1.3		5	4	1	1	

¹ Averages for the year. ² Excludes revenues from sales for resale.

³ Natural gas only included for Alaska.

⁴ Less than \$500,000. ⁵ Less than 50 customers. ⁶ Natural gas only.

Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

Section 20

Science

This section presents statistics relating to various aspects of scientific and technical activity. Major topics are research and development, training and employment of scientists and engineers, atomic energy, space vehicles, and patents and trademarks. Principal sources of these data are the National Science Foundation, the Atomic Energy Commission, and the National Aeronautics and Space Administration.

The National Science Foundation gathers data chiefly through recurring statistical surveys and the National Register of Scientific and Technical Personnel (see below). Current Foundation publications containing data on funds for research and development and on scientific and engineering personnel include the pamphlet series, *Reviews of Data on Research & Development* and *Scientific Manpower Bulletins*; the regular reports, *Federal Funds for Science, Scientists and Engineers in the Federal Government*, *Funds for Research and Development in Industry*, *Scientific and Technical Personnel in Industry*, and *American Science Manpower*; occasional reports relating to colleges, universities, and other nonprofit institutions; special reports such as *Scientific Manpower From Abroad*; and policy reports relating to national allocation of manpower and funds to science and technology. The Foundation's statistical surveys pose particularly difficult problems of concept and definition and the data should, therefore, be regarded as broad estimates rather than precise quantitative statements. Detailed discussions of the scope and limitations of the data appear in the source publications.

Neither the National Aeronautics and Space Administration nor the Atomic Energy Commission publish any statistical reports as such. NASA's *Semiannual Report* contains current data on finances and its biweekly *Satellite Situation Report* presents information on artificial satellites, including both objects in orbit and decayed objects; and its one-page *Space Activities Summary*, issued for each space vehicle it launches, gives data on the launching vehicle, its payload, and its performance. The Atomic Energy Commission's annual and semiannual reports contain data on atomic energy, equipment, finances, and licenses.

Other sources of statistics on scientific and technical activities include *The Budget of the United States Government*, which contains summary financial data on all Federal research and development programs; the report series *Resources for Medical Research*, issued for the first time in August 1962 by the Public Health Service of the Department of Health, Education, and Welfare, and designed to present timely information on funds, manpower, facilities, and institutions devoted to medical and health-related research; and the *Annual Report of the Commissioner of Patents*, issued by the Department of Commerce's Patent Office and presenting data on patent applications and issuances and on trademark registrations and renewals.

Research and development.—The National Science Foundation defines research as a "systematic and intensive study directed toward a fuller knowledge of the subject studied" and development as "the systematic use of scientific knowledge directed toward the production of useful materials, devices, systems, methods, or processes." The data on funds are presented within the framework of a national economic structure

composed of four sectors: (1) The *government sector*, made up primarily of Federal executive agencies; (2) the *industry sector*, consisting of manufacturing and nonmanufacturing firms and the Federal contract research centers they administer; (3) the *colleges and universities sector*, composed of colleges, universities, and their affiliated institutions, agricultural experiment stations and associated schools of agriculture, and Federal contract research centers administered by educational institutions; and (4) the *other nonprofit institutions sector*, consisting of such organizations as private philanthropic foundations, nonprofit research institutes, voluntary health agencies, and Federal contract research centers administered by nonprofit organizations. The R&D funds reported consist of current operating costs, including those for planning and administration, except as otherwise noted. They exclude funds for routine testing, mapping and surveying, collection of general-purpose data, dissemination of scientific information, and training of scientific manpower.

Scientists and engineers.—Scientists and engineers are defined as persons engaged in scientific and engineering work at a level requiring a knowledge of sciences equivalent at least to that acquired through completion of a 4-year college course. They are generally classified according to the fields of their employment and not according to the discipline in which they received their major training. Persons in Federal Government and in industry employment are counted on an individual basis; those in colleges and universities are counted in terms of full-time equivalent, which allows proportionate weight, statistically, for persons employed part-time.

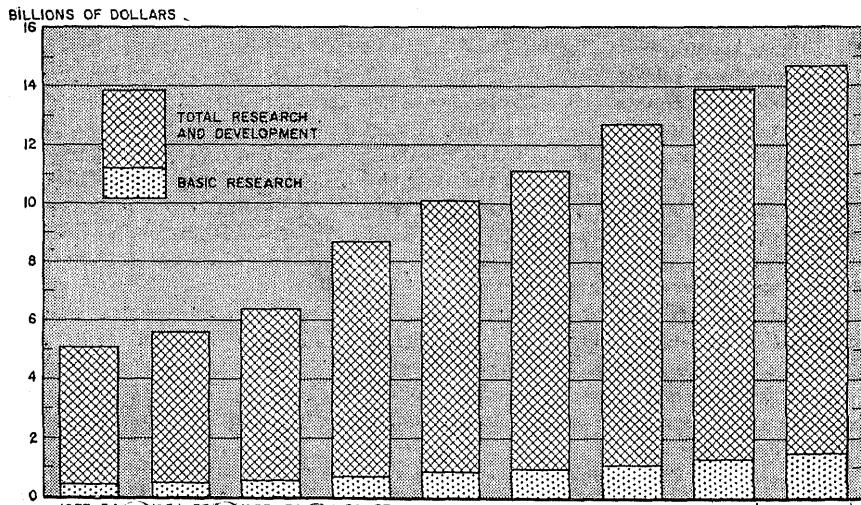
The National Register of Scientific and Technical Personnel is the only comprehensive program for registration of scientists in the United States. Although it currently covers approximately 200,000 U.S. scientists who voluntarily reported information on their economic and professional characteristics, it does not include all scientists in the United States.

Alaska and Hawaii.—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

FIG. XXXIII. FUNDS FOR RESEARCH AND DEVELOPMENT: 1953-54 TO 1961-62

[See table 734]



¹ Preliminary.

Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from National Science Foundation.

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No. 734. FUNDS FOR TOTAL RESEARCH AND DEVELOPMENT AND FOR BASIC RESEARCH, BY SOURCE AND BY PERFORMANCE SECTOR: 1953-54 TO 1961-62

[In millions of dollars. Includes Alaska and Hawaii, except industry data prior to 1957-58. Hyphenated time periods indicate that data are for a variety of financial years beginning in the earlier year and ending in the later year. Data refer in general to the natural sciences; however, some funds for psychology and the social sciences could not be eliminated.]

ITEM AND YEAR	Total	SOURCES OF FUNDS				PERFORMANCE OF RESEARCH AND DEVELOPMENT BY—			
		Federal Government ¹	Industry	Colleges and universities ²	Other nonprofit institutions ²	Federal Government	Industry ³	Colleges and universities ⁴	Other nonprofit institutions ³
RESEARCH AND DEVELOPMENT⁴									
1953-54	5,150	2,740	2,240	130	40	970	3,630	450	100
1954-55	5,620	3,070	2,365	140	45	960	4,070	480	120
1955-56	6,390	3,670	2,510	155	55	1,090	4,640	530	130
1956-57	8,670	5,095	3,325	180	70	1,280	6,600	650	140
1957-58	10,100	6,390	3,450	190	70	1,440	7,730	780	150
1958-59	11,130	7,170	3,680	190	90	1,730	8,360	840	200
1959-60	12,680	8,320	4,060	200	100	1,830	9,610	1,000	240
1960-61 (prel.)	13,890	9,010	4,550	210	120	1,900	10,510	1,200	280
1961-62 (prel.)	14,740	9,650	4,705	230	155	2,090	10,870	1,400	380
BASIC RESEARCH									
1953-54	432	195	147	62	28	47	151	208	26
1954-55	485	(3)	(6)	70	35	55	166	230	34
1955-56	547	(4)	(6)	75	38	65	189	250	43
1956-57	694	(4)	(6)	90	46	90	253	300	51
1957-58	834	422	249	111	52	111	271	392	60
1958-59	975	524	275	118	58	180	305	420	70
1959-60	1,064	578	275	140	71	147	332	500	85
1960-61 (prel.)	1,256	684	328	161	83	103	388	575	100
1961-62 (prel.)	1,488	849	351	180	108	238	403	695	152

¹ Data on sources of funds are based on reports by the performers.

² Includes State and local funds received by these institutions and used for research and development.

³ Includes expenditures at Federal contract research centers administered by organizations in this sector.

⁴ Includes basic research, applied research, and development.

⁵ Not available on a comparable basis.

No. 735. FUNDS FOR TOTAL RESEARCH AND DEVELOPMENT AND FOR BASIC RESEARCH, BY PERFORMANCE SECTOR, DISTRIBUTED BY SOURCE: 1958-59 TO 1961-62

[In millions of dollars. See headnote, table 734]

PERFORMANCE SECTOR AND SOURCE OF FUNDS ¹	RESEARCH AND DEVELOPMENT ²				BASIC RESEARCH			
	1958-59	1959-60	1960-61 (prel.)	1961-62 (prel.)	1958-59	1959-60	1960-61 (prel.)	1961-62 (prel.)
Total funds used	11,130	12,680	13,890	14,740	975	1,064	1,256	1,488
Federal Government	1,730	1,830	1,900	2,090	180	147	193	238
Federal funds	1,730	1,830	1,900	2,090	180	147	193	238
Industry ³	8,360	9,610	10,510	10,870	305	332	388	403
Federal funds	4,760	5,640	6,080	6,310	53	84	91	89
Industry funds	3,600	3,970	4,430	4,500	252	248	297	314
Colleges and universities ²	840	1,000	1,200	1,400	420	500	575	695
Federal funds	570	720	890	1,050	256	305	360	442
Industry funds	40	40	50	55	17	20	23	25
College and university funds ⁴	190	200	210	230	118	140	161	180
Other nonprofit institutions funds ⁴	40	40	50	65	29	35	41	48
Other nonprofit institutions ³	200	240	280	380	70	85	100	152
Federal funds	110	130	140	200	35	42	50	80
Industry funds	40	50	70	90	6	7	8	12
Other nonprofit institutions funds ⁴	50	60	70	90	29	36	42	60

¹ Data on sources of funds are based on reports by the performers.

² Includes basic research, applied research, and development.

³ Includes expenditures at Federal contract research centers administered by organizations in this sector.

⁴ Includes State and local funds received by these institutions and used for research and development.

Source of tables 734 and 735: National Science Foundation; *Data Sheet on Research and Development*, February 1963.

No. 736. FEDERAL GOVERNMENT OBLIGATIONS AND EXPENDITURES FOR RESEARCH AND DEVELOPMENT, BY AGENCY: 1955 TO 1963

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii. Includes obligations and expenditures for social science research and for R&D plant. Obligations differ from expenditures in any given year because not all obligated funds are expended during year appropriated]

AGENCY	1955	1956	1957	1958	1959	1960	1961	1962 est.	1963 est.
Total obligations	2,747	3,269	4,381	4,908	7,121	8,078	9,606	11,239	14,448
Departments:									
Agriculture	73	84	103	113	139	129	146	177	176
Commerce	16	18	19	19	30	33	47	73	102
Defense ¹	2,084	2,431	3,250	3,480	5,237	5,825	6,688	6,835	7,477
Army	444	420	545	615	1,187	1,183	1,154	1,185	1,388
Navy	573	713	857	888	1,381	1,557	1,565	1,577	1,647
Air Force	1,046	1,253	1,812	1,904	2,461	2,834	3,022	3,510	3,816
ARPA ²					16	172	212	222	251
Health, Education, and Welfare	71	89	178	218	279	359	466	646	766
Interior	35	39	48	55	68	71	84	102	119
Atomic Energy Commission ³	373	505	645	820	925	988	1,063	1,413	1,474
National Aero. and Space Adm. ⁴	65	66	83	97	300	487	905	1,697	3,099
National Science Foundation	10	17	37	41	69	81	100	160	230
All other agencies	20	21	19	57	75	104	106	137	165
Total expenditures	3,308	3,446	4,462	4,990	5,803	7,738	9,278	10,195	12,334
Departments:									
Agriculture	72	88	97	112	125	131	148	160	176
Commerce	10	20	20	18	30	33	36	48	72
Defense ¹	2,630	2,639	3,371	3,664	4,188	5,654	6,618	6,504	7,170
Army	1,013	702	782	874	891	1,109	1,306	1,301	1,355
Navy	592	636	785	854	1,035	1,301	1,631	1,596	1,631
Air Force	982	1,279	1,780	1,894	2,135	2,978	3,441	3,333	3,026
ARPA ²					3	81	226	207	212
Health, Education, and Welfare	70	86	144	180	253	324	374	558	677
Interior	32	36	42	49	72	65	75	88	107
Atomic Energy Commission ³	385	474	657	804	877	986	1,111	1,315	1,488
National Aero. and Space Adm. ⁴	74	71	76	89	146	401	742	1,287	2,397
National Science Foundation	9	15	31	33	51	58	77	116	153
All other agencies	26	17	25	41	67	85	98	120	144

¹ Includes military pay and allowances and procurement funds; also includes Departmentwide funds not shown separately. ² Advanced Research Projects Agency.

³ Data represent "accrued costs" rather than obligations and expenditures, respectively.

⁴ Prior to 1958, National Advisory Committee for Aeronautics.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

No. 737. FEDERAL GOVERNMENT OBLIGATIONS FOR SCIENTIFIC RESEARCH, BY FIELD OF SCIENCE, 1959 TO 1963, AND BY AGENCY, 1962

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii. Includes intramural and extramural obligations for research; excludes obligations for development and for R&D plant]

YEAR AND AGENCY	Total re-search	LIFE SCIENCES			Psycholog-ical sciences	PHYSICAL SCIENCES			Social sci-ences	Other sci-ences
		Bio-logical	Medi-cal	Agri-cul-tural		Physical science proper	Mathemat-ics	Engi-neering		
1959	1,390	88	268	64	24	288	16	461	31	150
1960	1,927	106	342	68	38	421	24	861	35	33
1961	2,337	133	441	63	51	654	45	812	44	94
1962 ¹	3,185	168	608	74	64	782	52	1,161	65	210
1963 ¹	4,419	204	703	76	84	963	67	1,995	95	231
BY AGENCY, 1962 ¹										
Departments:										
Agriculture	157	17	13	70		26	(2)	11	20	
Defense ³	1,078	34	27	(2)	18	428	34	327	(2)	210
Army	203	17	20	(2)	6	71	4	70	(2)	15
Navy	198	5	6		7	75	17	81		8
Air Force	297	12	1		4	131	14	136		
Advanced Research Projects Agency	245				2	151		40		52
Health, Education, and Welfare	601	22	515	(2)	34	8	(2)	3	20	
Interior	81	23	(2)	1		34	1	21	2	
Atomic Energy Commission ⁴	247	33	17	1		163	4	20		(2)
National Aero. and Space Administration	826	9	7		5	55	4	745	1	
National Science Foundation	106	30	2		4	45	8	11	6	
All other agencies	89	27	2		3	23	1	14	10	

¹ Estimated. ² Less than \$500,000. ³ Excludes pay and allowances of military personnel in research; includes Departmentwide funds not shown separately. ⁴ Includes civil functions.

³ Data represent "accrued costs" rather than obligations.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

NO. 738. FUNDS FOR PERFORMANCE OF TOTAL RESEARCH AND DEVELOPMENT AND OF BASIC RESEARCH, BY INDUSTRY: 1958 TO 1961
In millions of dollars. Includes performance of Federal contract research centers administered by industrial firms classified in industry of administering company. Excludes performance by certain industry-oriented organizations, such as trade associations, that account annually for less than 1 percent of the total.

INDUSTRY	RESEARCH AND DEVELOPMENT PERFORMANCE 1							BASIC RESEARCH PERFORMANCE, TOTAL FUNDS				
	Total funds			Federal funds				1958	1959	1960	1961	
	1958 ²	1959 ²	1960 ²	1961	1958	1959	1960	1961	1958	1959	1960	1961
Total	\$ 363	9,609	10,507	10,872	3,4759	3,5,638	3,6,082	3,6,313	3,305	3,322	3,388	3,403
Food and kindred products	83	90	102	105	6	5	n.a.	4	5	7	n.a.	9
Textiles and apparel	20	25	32	33	—	—	n.a.	n.a.	1	n.a.	n.a.	n.a.
Lumber, wood products, and furniture	10	10	9	9	—	—	n.a.	n.a.	—	—	n.a.	123
Paper and allied products	42	49	56	60	—	—	n.a.	n.a.	—	—	n.a.	—
Chemicals and allied products	792	801	986	1,073	126	151	182	224	92	105	115	115
Petroleum refining and extraction ⁴	239	276	290	294	12	25	16	19	44	51	44	46
Rubber products	89	115	120	126	21	39	37	36	n.a.	n.a.	6	9
Stone, clay, and glass products	75	84	96	103	n.a.	n.a.	n.a.	n.a.	44	51	44	46
Primary metals	119	137	160	160	15	14	16	17	7	8	10	10
Fabricated metal products	133	112	118	118	57	43	36	33	37	1	1	2
Machinery	731	927	932	986	343	413	377	292	20	19	22	25
Electrical equipment and communication ⁶	1,969	2,270	2,406	2,404	1,387	1,507	1,594	1,533	63	64	77	78
Motor vehicles and other transportation equipment	821	845	864	862	2,296	2,292	2,217	1,192	n.a.	7	9	51
Aircraft and missiles	2,662	3,174	3,651	3,927	2,276	2,276	3,180	3,537	26	32	62	62
Professional and scientific instruments	294	339	396	384	137	166	202	176	10	10	8	11
Other industries ⁷	222	266	309	348	133	191	199	233	4	n.a.	9	n.a.

a Not available

a. Not available.
Includes basic research.

Revised estimates; c
Includes data for im

Includes data for inclusions

Latitudes & Longitudes
Estimated.

11

- a. Not available.
- Includes basic research, applied research, and development; excludes social sciences.
- Revised estimates differ from those previously published.
- Includes data for industries which are not available separately.
- Excludes geological and seismological exploration activities of petroleum companies.

Estimated. Geological and geophysical exploration activities of petroleum companies.

- ⁶ These 2 industries have development activities.
- ⁷ Includes manufacturing available separately.

Source: National Science Foundation, *Science and Technology in Industry*.

No. 739. SCIENTISTS AND TECHNICAL PERSONNEL—STATES: 1960

[Based on the National Register of Scientific and Technical Personnel; see text, p. 542]

STATE OR OTHER AREA	Total	SCIENTIFIC AND TECHNICAL FIELD							
		Agricultural sciences	Biological sciences	Psychology	Earth sciences	Mathematics	Physics	Chemistry	Other ¹
		13,140	27,188	15,257	17,642	15,511	20,882	53,071	38,601
Total	201,292	13,140	27,188	15,257	17,642	15,511	20,882	53,071	38,601
Alabama	1,638	237	190	76	45	143	141	472	334
Alaska	443	127	57	5	88	7	11	15	133
Arizona	1,302	219	173	70	175	90	97	152	326
Arkansas	815	205	111	58	101	36	22	162	120
California	22,788	1,106	2,491	2,151	1,862	2,501	3,549	4,299	4,829
Colorado	3,587	384	322	193	1,132	187	256	384	729
Connecticut	3,530	104	451	301	89	343	457	1,192	503
Département	2,237	27	104	64	19	53	98	1,460	422
District of Columbia	5,508	270	700	422	542	539	809	881	1,255
Florida	3,088	379	551	327	186	213	252	512	668
Georgia	2,025	439	434	147	57	133	116	336	303
Hawaii	522	53	96	49	33	16	22	84	169
Idaho	849	302	86	28	58	30	60	122	154
Illinois	10,512	332	1,807	911	385	729	987	3,594	1,987
Indiana	3,958	214	697	286	153	311	335	1,316	646
Iowa	1,986	214	420	217	88	178	145	451	273
Kansas	2,045	112	309	223	399	163	113	376	350
Kentucky	1,275	110	201	93	80	77	81	381	252
Louisiana	3,071	274	307	113	952	126	89	615	595
Maine	605	121	102	67	35	39	28	122	91
Maryland	5,838	243	1,560	307	184	574	714	1,318	938
Massachusetts	7,913	133	976	632	288	821	1,490	2,205	1,373
Michigan	6,909	498	1,012	634	243	523	557	2,127	1,315
Minnesota	3,301	343	511	336	159	282	267	900	503
Mississippi	973	221	136	33	246	43	33	98	163
Missouri	3,437	190	500	235	186	232	191	980	923
Montana	960	311	110	23	250	37	18	64	147
Nebraska	987	145	159	83	70	103	66	152	209
Nevada	368	76	27	23	56	12	25	59	90
New Hampshire	527	88	112	31	23	39	52	109	73
New Jersey	10,604	188	837	614	162	766	1,320	4,972	1,705
New Mexico	2,032	194	102	46	397	207	456	267	363
New York	21,659	404	2,906	2,618	641	2,077	2,781	6,279	3,953
North Carolina	2,435	336	467	180	78	209	156	634	375
North Dakota	474	88	63	45	90	35	16	60	77
Ohio	9,134	233	894	709	301	596	850	3,568	1,983
Oklahoma	2,930	125	218	104	1,061	142	100	554	626
Oregon	2,223	885	280	138	126	78	124	257	335
Pennsylvania	11,984	370	1,529	917	427	770	1,359	4,365	2,247
Rhode Island	676	26	75	67	27	53	114	211	103
South Carolina	988	189	108	42	21	49	78	308	103
South Dakota	439	129	76	24	47	21	19	55	68
Tennessee	2,717	190	367	149	84	175	281	971	500
Texas	10,292	414	764	422	3,474	459	596	1,840	2,297
Utah	1,522	217	229	84	313	82	98	205	294
Vermont	299	51	79	33	8	21	18	55	34
Virginia	2,944	249	335	193	149	255	306	440	717
Washington	3,433	572	431	230	231	255	315	640	759
West Virginia	1,322	120	104	60	73	39	38	591	297
Wisconsin	3,433	389	619	257	114	257	277	935	585
Wyoming	775	136	44	22	364	12	12	72	113
Foreign	3,187	201	347	134	1,003	369	173	169	791
No report	2,793	7	1,802	31	272	4	245	369	63

¹ Includes the fields of meteorology, geography, astronomy, sanitary engineering, and other specialties, including social scientists.

No. 740. SCIENTISTS AND ENGINEERS IN PRIVATE INDUSTRY, BY INDUSTRY AND OCCUPATION: JANUARY 1961

[Includes Alaska and Hawaii. Because of changes in survey methodology (sampling units and types), these data are not comparable with those of 1960 and earlier years]

INDUSTRY	Total ¹	Engi- neers	Chem- ists	Physi- cists	Metal- lur- gists	Geo- logists and geo- physi- cists	Mathe- ma- ti- cians	Life- sci- entists
ALL SCIENTISTS AND ENGINEERS								
All industries	814,800	651,000	82,100	14,000	13,000	12,100	13,700	25,400
Manufacturing	589,800	459,300	71,500	11,500	11,900	2,300	8,900	21,200
Ordnance and accessories	32,500	29,400	600	800	300	(2)	800	(2)
Food and kindred products	19,800	7,400	8,600	(2)	(2)	(2)	200	3,400
Paper and allied products	11,000	7,500	2,900	(2)	(2)	(2)	100	400
Chemicals and allied products	91,200	36,100	34,800	1,600	600	400	700	16,400
Petroleum refining	15,700	10,700	3,300	200	(2)	(2)	200	(2)
Rubber and misc. plastic products	7,300	5,600	1,500	100	(2)	(2)	(2)	(2)
Stone, clay, and glass products	9,400	7,700	1,300	200	(2)	100	(3)	(3)
Primary metal industries	32,200	21,500	3,300	400	6,500	100	200	100
Fabricated metal products	24,500	22,800	800	100	600	(2)	100	(2)
Machinery, except electrical	65,400	60,800	1,200	800	1,000	(2)	1,300	(2)
Electrical equipment and supplies	121,400	110,300	3,300	4,300	800	100	2,000	(2)
Transportation equipment	115,000	104,400	3,300	1,900	2,000	100	2,700	200
Instruments and related products	30,300	25,700	2,500	1,100	200	100	300	100
Other manufacturing industries	14,100	9,400	3,900	100	(2)	(2)	100	400
Nonmanufacturing	225,000	191,600	10,600	2,500	1,100	9,900	4,800	4,100
Mining	26,700	16,700	1,200	100	300	8,300	100	(2)
Contract construction	35,000	34,900	(2)	(2)	(2)	(2)	(3)	(3)
Transportation and public utilities	47,100	45,700	500	(2)	(2)	500	200	200
Services	81,600	68,900	4,200	2,200	600	1,000	1,700	2,700
Agriculture, forestry, and fisheries	600	100	(2)	(2)	(2)	(2)	500	500
Other nonmanufacturing industries	34,000	25,400	4,700	200	300	(2)	2,700	600
RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS								
All industries	301,000	218,300	47,600	11,700	5,100	800	6,900	8,400
Manufacturing	263,400	193,800	40,600	9,700	4,600	500	5,300	7,100
Ordnance and accessories	19,700	17,500	300	600	100	(2)	500	(2)
Food and kindred products	7,800	7,700	6,200	(2)	(2)	(2)	(3)	800
Paper and allied products	2,600	1,100	1,400	(2)	(2)	(2)	(3)	(2)
Chemicals and allied products	34,800	8,200	18,700	1,100	400	(2)	300	5,900
Petroleum refining	3,900	1,700	1,700	100	(2)	200	100	(2)
Rubber and misc. plastic products	3,300	2,300	1,000	100	(2)	(2)	(2)	(2)
Stone, clay, and glass products	2,800	1,900	700	200	(2)	(2)	(2)	(2)
Primary metal industries	5,700	2,200	1,300	300	1,600	(2)	100	(2)
Fabricated metal products	5,200	4,400	400	100	200	(2)	(3)	(3)
Machinery, except electrical	25,100	22,300	800	600	400	(2)	800	(2)
Electrical equipment and supplies	65,200	56,700	2,400	3,800	600	100	1,200	(2)
Transportation equipment	64,700	57,500	2,100	1,600	1,100	(2)	2,000	100
Instruments and related products	16,700	13,900	1,400	900	100	100	200	(2)
Other manufacturing industries	5,800	3,400	2,300	(2)	(2)	(3)	(2)	(2)
Nonmanufacturing	37,600	24,600	7,000	2,100	500	400	1,600	1,200
Mining	1,600	1,200	200	(2)	100	100	(2)	(2)
Contract construction	500	500	(2)	(2)	(2)	(2)	(2)	(2)
Transportation and public utilities	1,500	1,400	100	(2)	(2)	(2)	(2)	(2)
Services	26,700	18,700	2,900	2,100	400	200	1,200	900
Agriculture, forestry, and fisheries	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Other nonmanufacturing industries	7,200	2,800	3,800	(2)	(2)	(2)	100	300

¹ Includes scientists not shown separately; excludes psychologists and other social scientists.

² Less than 50.

Source: National Science Foundation; *Scientific and Technical Personnel in American Industry, 1961*.

No. 741. SCIENCE PERSONNEL AND EXPENDITURES FOR RESEARCH AND DEVELOPMENT PERFORMANCE IN COLLEGES AND UNIVERSITIES, BY FIELD OF SCIENCE: 1954, 1958, AND 1961

[Personnel in terms of full-time equivalents; expenditures in millions of dollars. Includes Alaska and Hawaii. Excludes Social Sciences]

FIELD OF SCIENCE	SCIENTISTS AND ENGINEERS EMPLOYED IN— ¹						EXPENDITURES		
	All scientific activity			Research and development			1954	1958	1961 ²
	1954	1958	1961 ²	1954	1958	1961 ²			
Total	72,000	103,800	125,000	25,200	42,000	52,500	450	780	1,200
Engineering	15,000	21,400	23,500	5,600	8,000	9,600	130	190	250
Physical sciences	23,000	33,100	40,500	7,600	13,000	16,700	150	290	460
Life sciences	34,000	49,300	61,000	12,000	21,000	26,200	170	300	490

¹ For explanation of full-time equivalent, see text, p. 542.

² Previously published 1960 estimates are superseded by 1961 preliminary survey data.

³ Estimates.

Source: National Science Foundation; records.

No. 742. SCIENCE DOCTORATES CONFERRED, BY FIELD OF SCIENCE: 1957 TO 1962

FIELD OF SCIENCE	1957	1958	1959	1960	1961	1962 (prel.)	
						1957	1958
Total	5,993	6,128	6,536	6,908	7,439		8,282
Life sciences						1,634	1,585
Agricultural and related						275	255
Medical sciences						97	78
Anatomy, cytology, physiology, and embryology						268	272
Botany						191	157
Biochemistry						237	231
Microbiology						181	202
Zoology						233	228
Miscellaneous biological sciences						152	162
Physical sciences						2,535	2,558
Mathematics						256	238
Physics						462	504
Chemistry						1,042	959
Geo-sciences						185	199
Engineering						590	658
Social sciences						1,824	1,985
Psychology, anthropology, and archaeology						788	853
Sociology						117	174
Economics						304	322
History						339	314
Political science						202	226
Miscellaneous social sciences						74	96

Source: National Science Foundation and National Research Council.

No. 743. PATENTS AND TRADEMARKS: 1941 TO 1962

[For years ending December 31. Covers patents issued to citizens of United States and residents of foreign countries. For information on copyrights, see table 715, p. 528. See also *Historical Statistics, Colonial Times to 1957*, series W 66-75 and W 77-78.]

ITEM	1941-45	1946-50	1951-55	1956-60	1957	1959	1960	1961	1962
Patent applications filed	294,273	400,342	379,053	410,389	79,242	83,833	84,475	88,151	90,373
Inventions	265,417	360,095	351,649	384,782	74,187	78,594	70,590	83,100	86,029
Designs	27,536	39,127	25,951	23,865	4,714	4,379	4,525	4,714	4,910
Botanical plants	282	398	467	584	101	114	131	107	151
Reissues	1,058	722	986	1,158	230	246	229	230	233
Patents issued ¹	184,492	163,034	208,964	251,872	45,385	55,454	49,986	51,152	58,284
Inventions ²	164,360	144,076	192,651	237,469	42,744	52,408	47,170	48,368	55,691
Individuals	61,127	58,987	78,459	n.a.	15,154	n.a.	n.a.	n.a.	n.a.
Corporations:									
United States	95,107	78,376	100,278	n.a.	23,255	n.a.	n.a.	n.a.	n.a.
Foreign	5,147	4,669	10,537	n.a.	3,372	n.a.	n.a.	n.a.	n.a.
U.S. Government ³	346	1,761	3,359	n.a.	963	n.a.	n.a.	n.a.	n.a.
Designs	18,880	18,016	15,084	13,024	2,362	2,768	2,543	2,487	2,300
Botanical plants	229	334	441	567	129	101	116	108	91
Reissues	1,023	608	788	812	150	177	157	189	202
Certificates of trademarks issued ¹	52,191	85,611	100,942	108,246	20,968	21,981	22,367	19,953	19,832
Trademarks	34,435	61,339	83,311	90,727	17,480	18,709	18,434	16,595	17,023
Trademark renewals	17,756	24,272	17,631	17,519	3,488	3,272	3,933	3,358	2,809

n.a. Not available.

¹ Excludes all registration numbers left blank due to withdrawal of patent or trademark before issue.

² Since 1942, includes patents issued to the Alien Property Custodian.

³ Excludes patents issued to the Alien Property Custodian.

Source: Department of Commerce, Patent Office; records. Fiscal-year figures are published in the *Annual Report of the Commissioner of Patents*.

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No. 744. ATOMIC ENERGY PROGRAM—SUMMARY: 1950 TO 1962

[As of December 31 or calendar years, except as noted]

ITEM	1950	1955	1958	1959	1960	1961	1962
Operating contractors ¹	34	64	84	94	91	97	87
Construction and design contractors ¹	28	18	38	34	39	29	20
Offsite research contracts with educational, medical, and other nonprofit institutions; ²							
Number of institutions.....	100	187	225	216	222	229	219
Number of contracts.....	251	731	882	942	996	1,072	1,088
Nuclear reactors in U.S.:.....							
Civilian reactors:.....							
Electric power prototypes.....			1	2	3	3	7
Experimental electric power.....		2	7	7	7	8	10
Propulsion prototypes and experiments.....				1	1	1	1
General irradiation test.....		1	3	4	2	5	4
Research.....	9	11	26	31	35	40	44
Teaching.....			21	29	39	37	38
Military reactors:.....							
Electric power.....			2	3	5	6	7
Naval propulsion.....		1	6	11	15	37	41
Other propulsion prototypes and experiments.....		2	6	7	8	8	6
Test and research.....		4	6	6	7	11	11
Production reactors:.....							
Material production.....	5	13	13	13	13	13	13
Production process development and test.....	1	5	5	5	5	6	6
Licenses in effect:.....							
Power reactors:.....							
Construction permits and authorizations.....			4	3	11	11	5
Licenses to operate and operating authorizations.....			1	2	3	4	11
Research reactors:.....							
Construction permits.....		4	10	16	17	15	10
Licenses to operate.....		2	31	39	45	54	61
Test reactors:.....							
Construction permits.....			3	1	1		
Licenses to operate.....				2	2	3	3
Critical experiment facilities:.....							
Construction permits.....		2	2	1	1	1	1
Licenses to operate.....			10	13	14	14	15
Production facilities: Construction permits.....							
Operators' licenses.....	3	354	465	563	689		837
Licenses to possess special nuclear materials.....	7	236	294	362	459		454
Licenses to possess source materials.....	647	1,763	1,412	1,345	1,153		460
Licenses to export reactors issued.....			8	12	3	4	4
Source material export licenses issued.....	n.a.	715	676	721	696		126
Organizations with byproduct (radioisotope).....							
Licenses ³	614	3,016	4,357	5,505	5,940	6,505	5,881
Medical institutions and physicians.....	206	1,173	1,900	2,286	2,568	2,807	2,278
Industrial concerns.....	206	1,266	1,398	1,623	1,817	1,997	1,783
Colleges and universities.....	123	227	251	283	207	343	314
Federal and State laboratories.....	49	258	690	1,179	1,153	1,329	1,416
Foundations and institutions.....	29	57	49	52	55	59	47
Other.....	1	35	69	82	50	60	43
Radioisotopes: ⁴							
Sales by ORNL.....	\$1,000	819	1,681	2,438	2,323	2,104	2,893
Shipments by ORNL.....		7,995	12,749	14,131	12,950	12,724	12,747
Curies shipped by ORNL.....		1,111	55,772	228,714	299,365	205,674	445,648
Exports to foreign countries.....	\$1,000	n.a.	1,288	1,534	1,283	1,084	1,741
Imports from foreign countries.....	do.	6	189	908	1,145	1,304	1,509
Access permits in effect.....			602	1,402	1,268	1,006	823
Agreements in effect for foreign cooperation.....			22	42	44	41	38
Power agreements.....			3	13	13	14	14
Research agreements.....			19	29	31	27	22
Sales of heavy water ²	tons			95	59	86	99
Uranium statistics (U. S.):.....							
Concentrate receipts ²	tons of U ₃ O ₈	3,060	5,940	26,376	33,326	34,582	32,260
From domestic sources ²	do.	320	2,140	10,244	15,162	16,567	17,758
From foreign sources ²	do.	2,740	3,800	16,132	18,164	18,015	14,502
Estimated uranium ore reserves.....	1,000 tons	2,000	27,000	82,500	86,000	82,000	74,000
Uranium ore milling capacity.....	tons per day	800	3,500	21,000	21,410	22,100	22,300

n.a. Not available.

¹ Represents those whose employees plus first-tier subcontractor employees total 50 or more; operating contractors comprise those engaged in production, research and development, maintenance, and service; excludes supply contractors.² As of June 30.³ Beginning 1957, data include only parent organizations, which are issued single basic licenses. Subordinate organizations at various locations included for prior years. Beginning 1962, several States were authorized to issue licenses; such licenses are excluded from figures shown.⁴ The Oak Ridge National Laboratory is the AEC's principal distributor of radioisotopes. Sales are made also by other AEC laboratories and by commercial suppliers. Sales figures include AEC sales made to commercial suppliers but not by them and also sales by ORNL to other AEC organizations. Shipments to foreign countries are comprised of shipments made by AEC laboratories and by commercial suppliers.Source: Atomic Energy Commission; *Semianual Report, Annual Report*, and records. Department of Commerce, Bureau of the Census, foreign trade releases.

No. 745. ATOMIC ENERGY PROGRAM—APPROPRIATIONS, INVESTMENTS, COSTS,
AND EMPLOYMENT: 1950 TO 1962

[Money figures in millions of dollars. For years ending June 30]

ITEM	1950	1955	1958	1959	1960	1961	1962
Appropriations received.....	703	1,210	2,334	2,635	2,650	2,667	2,547
Operations.....		1,099	2,225	2,385	2,387	2,456	2,352
Plant and equipment.....		111	109	250	263	211	195
Plant investment, year end.....	2,104	6,487	7,111	7,293	7,345	7,665	7,869
Completed plant.....	1,800	5,858	6,840	7,043	7,018	7,202	7,365
Production plants.....	1,251	4,646	5,495	5,553	5,458	5,454	5,345
Research facilities.....	184	707	938	1,125	1,271	1,434	1,714
Communities.....	262	299	229	179	86	78	77
Other.....	112	206	178	187	203	236	229
Construction in progress.....	295	629	271	250	327	403	504
Cost of operations ¹	415	1,290	2,299	2,497	2,619	2,613	2,696
Procurement of raw materials.....	39	194	596	700	717	637	537
Production of nuclear materials.....	130	588	750	713	731	733	689
Weapons development and fabrication.....	112	269	444	492	505	512	706
Development of nuclear reactors.....	31	115	306	356	399	437	433
Civilian.....	1	22	53	78	100	102	94
Military.....	9	53	173	181	187	201	130
Space propulsion.....			8	14	15	25	42
Other.....	21	40	72	83	97	109	167
Physical research.....	29	48	88	112	133	154	172
Fusion power.....		5	19	28	32	30	25
High energy physics.....	5	9	19	28	32	48	59
Other.....	24	35	50	57	68	76	88
Biology and medicine research.....	18	29	36	43	49	54	63
Community operations (net).....	20	10	11	10	7	4	4
Administrative expenses.....	23	34	46	50	51	58	61
Other expenses and income (net).....	13	13	21	21	27	24	31
Employment.....	63,739	112,618	121,059	121,928	122,718	122,989	126,623
Federal Government.....	4,941	6,076	7,107	6,855	6,907	6,846	6,863
Contractor operating.....	39,095	82,936	103,290	105,195	104,612	103,313	106,394
Contractor construction and design.....	19,703	23,606	10,662	9,878	11,199	12,830	13,366

¹ Includes depreciation.

Source: Atomic Energy Commission; *Financial Report*.

No. 746. NUCLEAR REACTORS—RESEARCH AND DEVELOPMENT COSTS, BY TYPE:
1956 TO 1962

[In millions of dollars. As of June 30. Includes AEC depreciation; excludes funding by other Federal agencies]

TYPE OF REACTOR	Cumulative through June 30, 1962	1956	1957	1958	1959	1960	1961	1962
Total.....	2,896.8	168.9	255.7	306.2	355.6	399.3	437.3	433.2
Civilian ¹	551.4	33.5	42.0	78.7	105.3	100.0	102.3	94.3
Pressurized light water.....	177.4	17.0	17.5	17.3	26.1	22.1	26.2	26.2
Boiling light water.....	61.8	5.3	5.4	4.4	5.9	10.5	11.9	10.1
Heavy water.....	37.7		.4	5.9	10.8	10.1	9.3	10.0
Organic moderated.....	42.3	.3	3.9	5.5	6.1	8.4	8.2	10.2
Gas cooled.....	66.2			3.8	9.5	19.0	21.4	12.5
Sodium cooled.....	156.9	10.9	14.6	11.6	24.3	27.5	22.2	23.6
Other studies and development.....	9.1		.2	30.2	22.6	2.4	3.1	1.7
Military.....	1,355.7	97.0	158.4	173.3	180.6	186.8	201.2	129.7
Naval propulsion.....	745.7	48.6	79.0	97.3	90.6	88.8	93.5	95.4
Army power.....	58.2	1.0	2.9	5.7	9.4	12.0	13.5	12.8
Missile propulsion.....	79.4	2	4.3	4.3	8.8	16.3	23.1	21.5
Aircraft propulsion.....	472.4	47.2	72.2	66.0	71.8	69.7	71.1	(?)
Space propulsion.....	116.7	4.2	8.8	8.2	14.0	15.4	25.1	42.5
Other.....	873.0	34.2	46.5	46.0	55.7	97.1	108.7	166.7
Merchant ship reactors.....	22.8	.1	.9	1.5	4.7	4.2	5.4	9.0
Auxiliary power sources.....	99.4	.3	1.5	3.4	7.7	11.5	21.3	53.6
General.....	750.8	33.8	44.1	41.1	43.3	81.4	82.0	104.1

¹ Excludes costs of private organizations participating in the power demonstration reactor program.

² Discontinued in 1961.

Source: Atomic Energy Commission; *Annual Report*.

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No. 747. EMPLOYMENT IN THE ATOMIC ENERGY FIELD, BY OCCUPATION AND SEGMENT: 1961

[Based on a survey of 318 establishments covering about two thirds of all workers in the atomic energy field. Excludes persons in AEC research centers operated by universities, other university and college research and teaching, construction of nuclear facilities, uranium mining, and nonprofit laboratories]

SEGMENT	Total	Engineers	Scientists	Managerial and administrative personnel	Technicians	Other technical personnel	Clerical and other office personnel	Skilled trades	Other
All activities	137,566	18,414	7,209	13,278	13,643	3,002	20,354	27,239	34,427
AEC research facilities	22,636	4,676	2,064	2,234	3,271	535	4,247	2,585	3,024
Private research laboratories	8,187	1,750	1,261	1,667	1,667	171	1,539	489	643
Defense production facilities	39,214	3,293	1,480	4,362	2,944	274	4,865	9,600	12,396
Reactor manufacture	18,506	3,488	934	1,842	1,934	608	3,370	3,103	3,227
Production of feed materials	11,915	772	629	1,361	643	155	1,548	4,598	2,209
Design and engineering of nuclear facilities	9,089	2,573	74	633	1,475	254	1,506	1,648	926
Production of special materials	4,210	217	148	360	265	145	405	860	1,810
Uranium milling	3,851	122	106	302	137	112	227	672	2,173
Fuel element fabrication	2,701	246	86	238	195	72	357	306	1,201
Industrial radiography	1,219	127	98	77	161	405	139	76	136
Particle accelerator manufacturing	761	90	45	55	189	34	108	109	131
Power reactor operation	548	135	20	31	58	14	36	36	218
Processing and packaging radioisotopes	210	9	82	6	21	22	45	14	11
Radioactive waste disposal	74	1	3	7	13	4	8	23	15
Miscellaneous	14,445	915	170	1,103	670	197	1,954	3,120	6,307

Source: Department of Labor, Bureau of Labor Statistics; *Employment in the Atomic Energy Field: A 1961 Occupational Survey*.

No. 748. SHIPMENTS OF ATOMIC ENERGY EQUIPMENT AND PRODUCTS: 1960 AND 1961

[In thousands of dollars. Includes Alaska and Hawaii. Excludes construction expenditures, engineering and design costs, research and development expenditures, and products used in atomic energy work which are not uniquely designed for nuclear applications]

ITEM	1960		1961	
	Total	U.S. Government agencies	Total	U.S. Government agencies
Total	287,570		270,419	
Nuclear reactors	12,389	(1)	12,541	11,625
Reactor components and equipment:				916
Primary vessels and tanks	11,873	10,064	14,446	11,481
Control rod drive mechanisms and components	16,688	13,322	17,369	15,196
Accessory instrumentation for reactor control	17,746	11,515	6,231	10,871
Heat exchangers and condensers	19,019	11,932	7,087	14,292
Pressurizers, components, and auxiliary equipment	2,034	(1)	1,252	1,078
Pumps	21,390	(1)	20,410	15,557
Valves	8,319	6,977	1,342	6,663
Fuel handling equipment	1,950	1,011	939	751
Complete reactor fuel elements and control rods shipped directly for installation or use in a reactor	81,165	73,909	7,256	46,155
Partially fabricated reactor fuel element materials and control rods not shipped directly for installation or use in a reactor	14,335	11,116	3,219	18,892
Core structurals (barrels, cans, boxes, plates, etc., not included above)	4,067	3,516	551	7,180
Reactor moderators, coolants, and reflectors	3,278	1,669	1,609	4,201
Other specialized reactor components and equipment	5,492	3,556	1,936	7,024
Hot laboratory equipment	4,158	2,772	1,386	3,392
Shielding	5,704	3,066	2,638	6,636
Radiation detection and monitoring devices:				
Radiation survey monitoring and control devices	31,156	11,781	19,375	37,705
Radiation counting equipment				
Radioactive isotopes shipped from plants producing isotopes	976	55	921	1,688
Radiation sources and other radioactive materials produced from purchased isotopes	4,158	652	3,506	4,559
Control and measuring devices containing radioactive isotopes	10,391	2,860	7,531	10,500
Commercial irradiation service	11,282	5,923	5,350	{ 11,833 3,688 }
Conversion of enriched uranium metal and compounds (excluding production or conversion of normal and depleted uranium)				6,905 1,164

No. 749. SPACE ACTIVITIES OF THE FEDERAL GOVERNMENT—EXPENDITURES, BY AGENCY: 1955 TO 1964
 [In millions of dollars. For years ending June 30]

AGENCY	1955	1956	1957	1958	1959	1960	1961	1962	1963 est.	1964 est.
Total	75	100	150	249	521	960	1,468	2,390	3,990	6,069
National Aeronautics and Space Adm. ¹	74	71	76	89	146	401	604	1,229	2,358	4,154
Department of Defense	2	17	48	136	341	518	710	1,029	1,421	1,622
Atomic Energy Commission	6	19	20	33	41	64	130	191	19	45
Weather Bureau							1			
National Science Foundation	6	7	4	2				1	1	2

¹ Beginning 1961, excludes amounts for aircraft technology.

Source: U.S. President, *Message . . . Transmitting Report on This Nation's Aeronautics and Space Activities for the Calendar Year 1962 . . .* 88th Congress, 1st session, House Document No. 52.

No. 750. SPACE PROGRAMS—EXPENDITURES OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION FOR RESEARCH AND DEVELOPMENT: 1961 TO 1964

[In millions of dollars. For years ending June 30. Covers activities aimed to develop new knowledge or apply existing knowledge to new uses. Generally excludes expenditures for routine testing, experimental production, and information and training programs. Expenditures for facilities cover land, buildings, and major equipment.]

PROGRAM	PERFORMANCE				FACILITIES			
	1961	1962	1963 est.	1964 est.	1961	1962	1963 est.	1964 est.
	Total	646	1,143	2,050	3,641	98	114	350
Manned space flight	232	467	1,105	2,313	6	80	271	400
Space applications	15	61	82	123	1			1
Unmanned investigations	208	323	421	557	8	14	20	36
Space technology	123	183	249	400	19	13	32	75
Aircraft technology	36	28	41	43	15		1	3
Supporting operations	33	81	152	205	50	7	26	44

Source: Executive Office of the President, Bureau of the Budget; *Budget of the United States Government*.

No. 751. MANNED SPACECRAFT: 1961 THROUGH MAY 1963

[Includes all U.S. and known U.S.S.R. launchings]

CHARACTERISTICS OF VEHICLE	SUBORBITAL, U.S.		ORBITAL					
	Mercury Red- stone III	Mer- cury Red- stone IV	U.S.				U.S.S.R. ¹	
			Mer- cury Atlas VI	Mer- cury Atlas VII	Mer- cury Atlas VIII	Mer- cury Atlas IX	Vostok (Space- craft VI)	Vostok II
Astronaut	Shep- ard	Gris- som	Glenn	Carpenter	Schirra	Cooper	Gagarin 4-12-61	Titov
Launching date	5-5-61	7-21-61	2-20-62	5-24-62	10-3-62	5-15-63	8-6-61	Nikolaev 8-11-62
Vehicle lift-off weight lb	66,000	66,000	260,000	260,000	260,000	260,000	n.a.	n.a.
Vehicle dimensions ² ft	59H- 6D	59H- 6D	16D	16D	16D	16D	n.a.	n.a.
Payload dimensions ² ft			9.5H- 6D	9.5H- 6D	9.5H- 6D	9.6H- 6D	20H 12-14D	n.a. n.a.
Payload weight ³ lb			2,900	2,975	3,030	3,000	10,418	10,430
Altitude miles	115	118						10,000
Downrange mileage miles	302	305						
Maximum velocity mph	5,280	5,310	17,545	17,546	17,550	17,500	17,000	17,750
Perigee miles			97.6	100	100	100	108.8	110.3
Apogee miles			159.5	166.8	176	166.1	187.7	115.3
Orbits number			3	3	6	22	1	17.5
Lifetime hrs:min	0:15	0:16	4:56	4:56	9:13	34:20	1:48	25:18

¹ Not available. ² Unofficial data from U.S. and Soviet press and radio. On June 14 and 16, 1963, U.S.S.R. launched Vostok V and Vostok VI, data for which were received too late for inclusion.

³ H=height; D=diameter.

⁴ Weight in orbit. Lift-off (in pounds), 4,100, 4,224, 4,325, and 4,000, respectively; recovery (in pounds), 2,400, 2,420, 2,440, and 2,400, respectively. ⁵ Average.

Source: National Aeronautics and Space Administration; *Space Activities Summary*, various dates.

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No. 752. SPACE VEHICLES IN EARTH AND SOLAR ORBIT: 1963

[Reflects selected data computed and compiled by the Goddard Space Flight Center, North American Air Defense Command (NORAD), and Smithsonian Astrophysical Observatory as of March 27, 1963. Beginning September 1962, covers U.S. launches only and beginning 1963, NASA launches only]

EARTH ORBIT, COUNTRY OF LAUNCHING, AND VEHICLE	Launching date	Approximate weight (pounds)	Perigee (miles)	Apogee (miles)	Orbital period (minutes)
U.S. launchings					
Explorer 1	Feb. 1, 1958	31	206	1,042	105.0
Vanguard 1	Mar. 17, 1958	3	398	2,458	133.9
Vanguard 2	Feb. 17, 1959	22	350	2,039	125.3
Vanguard 3	Sept. 18, 1959	100	333	2,300	129.7
Explorer 7	Oct. 13, 1959	92	347	665	101.1
Tiros 1	Apr. 1, 1960	270	425	470	99.1
Transit 1B	Apr. 13, 1960	265	219	385	94.2
Midas 2	May 24, 1960	5,000	277	329	94.2
Transit 2A ¹	June 22, 1960	223	380	658	101.6
Greb ¹	June 22, 1960	42	383	654	101.6
Echo 1	Aug. 12, 1960	240	882	955	115.4
Courier 1B	Oct. 4, 1960	500	595	759	106.9
Explorer 8	Nov. 3, 1960	90	264	1,398	112.3
Tiros 2	Nov. 23, 1960	280	379	459	98.2
Samos 2	Jan. 31, 1961	4,100	286	344	94.8
Explorer 9	Feb. 16, 1961	80	364	1,568	117.1
Explorer 10	Mar. 25, 1961	79	n.a.	n.a.	n.a.
Explorer 11	Apr. 27, 1961	82	306	1,105	107.8
Transit 4A ²	June 29, 1961	175	550	617	103.8
Injun-SR-3 ²	June 29, 1961	95	548	620	103.8
Tiros 3	July 12, 1961	285	465	502	100.3
Midas 3	July 12, 1961	3,500	2,059	2,221	161.5
Explorer 12	Aug. 16, 1961	88	n.a.	n.a.	n.a.
Midas 4	Oct. 21, 1961	3,500	2,168	2,338	n.a.
Transit 4B ¹	Nov. 15, 1961	200	589	692	105.6
Traac ¹	Nov. 15, 1961	200	537	745	105.6
Tiros 4	Feb. 8, 1962	285	439	526	100.3
Orbiting Solar Observatory 1	Mar. 7, 1962	440	341	367	95.9
Ariel ³	Apr. 26, 1962	132	248	738	100.7
Tiros 5	June 19, 1962	286	361	610	100.4
Telstar 1	July 10, 1962	170	593	3,503	157.7
Tiros 6	Sept. 18, 1962	281	423	445	98.7
Alouette 1	Sept. 29, 1962	320	617	646	105.5
Explorer 14	Oct. 2, 1962	89	778	60,606	2,184.6
Explorer 15	Oct. 27, 1962	100	197	10,940	314.8
Anna 1B	Oct. 31, 1962	4355	676	728	107.8
Injun 3	Dec. 13, 1962	n.a.	147	1,701	115.7
Relay 1	Dec. 13, 1962	172	820	4,624	185.0
Explorer 16	Dec. 16, 1962	222	465	734	104.3
Transit 5A	Dec. 19, 1962	135	432	456	99.2
Syncom	Feb. 14, 1963	86	21,268	22,975	1,426.5
U.S.S.R. launchings					
Cosmos 2	Apr. 6, 1962	n.a.	123	840	100.3
Cosmos 5	May 28, 1962	n.a.	125	908	101.5
Cosmos 8	Aug. 18, 1962	n.a.	169	374	92.9
SOLAR ORBIT, COUNTRY OF LAUNCHING, AND VEHICLE	Launching date	Approximate weight (pounds)	Perihelion (million miles)	Aphelion (million miles)	Orbital period (days)
U.S. launchings					
Pioneer 4	Mar. 3, 1959	13	92	106	398
Pioneer 5	Mar. 11, 1960	95	75	92	312
Ranger 3	Jan. 26, 1962	727	91	108	406
Mariner 2	Aug. 27, 1962	447	65	114	348
Ranger 5	Oct. 18, 1962	755	87	98	366
U.S.S.R. launchings					
Lunik 1	Jan. 2, 1959	3,245	91	122	450
Venus Probe	Feb. 12, 1961	1,419	67	95	300

n.a. Not available. ¹ Two satellites launched at once.

² Three satellites launched at once. Payloads Injun and SR-3 failed to separate.

³ Launched by NASA and British National Committee for Space Research.

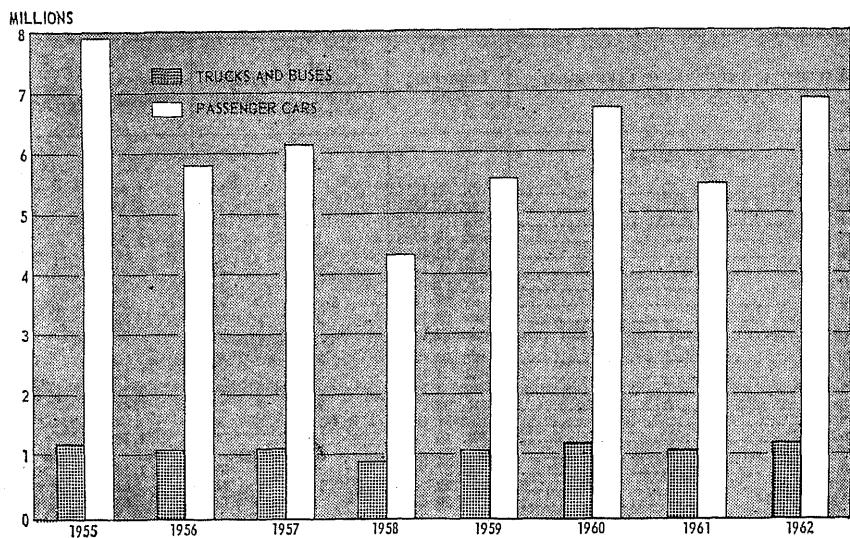
⁴ Launched by NASA and Canadian Defense Research Board.

⁶ Source: U.S. President, *Message ... Transmitting Report on This Nation's Aeronautics and Space Activities for the Calendar Year 1962* . . . 88th Congress, 1st Session, House Document No. 52.

Source: National Aeronautics and Space Administration; *Satellite Situation Report*, March 27, 1963, and *Space Activities Summary*, various dates, except as noted.

FIG. XXXIV. MOTOR-VEHICLE FACTORY SALES: 1955 TO 1962

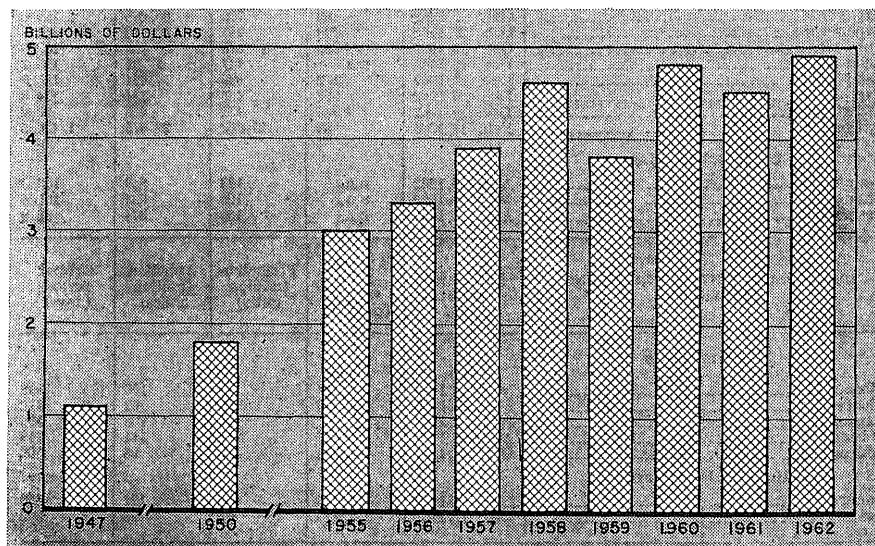
[See table 770]



Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from Automobile Manufacturers Association.

FIG. XXXV. HIGHWAY CONSTRUCTION CONTRACTS AWARDED: 1947 TO 1962

[See table 755]



Source: Department of Commerce, Bureau of the Census.

Section 21

Roads and Motor Vehicles

This section presents statistics relating to the mileage, control, and financing of public roads and to motor-vehicle travel and usage. The Bureau of Public Roads of the Department of Commerce is the principal compiler of data concerning public roads and motor-vehicle registrations. Since 1945, it has published such data in its annual *Highway Statistics*. The same Bureau's *Highway Statistics, Summary to 1955*, presents public roads data carried back over periods ranging from 20 to 50 years. The motor-vehicle registration figures which appear in *Highway Statistics* are compiled from reports and records of State highway departments.

The first road mileage survey was made in 1904. Data for 1904 and other road mileage surveys made in 1909, 1914, and 1921 appear in Department of Agriculture Bulletin 1279, *Rural Highway Mileage, Income, and Expenditures, 1921-22*.

Useful annual handbooks in this field are *Automobile Facts and Figures* and *Motor Truck Facts*, both issued by the Automobile Manufacturers Association of Detroit, Mich.; and *Accident Facts*, issued by the National Safety Council of Chicago, Ill. In addition, statistics on the motor-vehicle and equipment industry are compiled by the Bureau of the Census and published in its *Census of Manufactures* reports and *Annual Survey of Manufactures*. Data from these reports are also included in section 30, Manufactures, in this volume.

Rural and urban roads.—The terms "rural," "urban," and "municipal" are used in different ways in different tables in this section. Because of special problems and purposes, it is not possible to apply identical definitions and groupings to all types of data. Definitions are given in table headnotes where pertinent.

Highway systems.—The Federal-Aid Highway Act of 1916 provides for the sharing of highway construction costs between the States and the Federal Government with the initiative retained by each State for choosing projects and carrying them out. The planning and development of Federal-aid systems began in 1921. Federal funds share with State funds in costs of engineering, construction, and right-of-way acquisition on the designated systems while other charges, such as maintenance and policing, are borne entirely by the States and local agencies.

The Federal-aid primary system connects all of the principal cities, county seats, ports, manufacturing areas, and other traffic generating areas. In general, these are at the same time the main State trunkline roads. Certain sections of the primary system are more important than others from the viewpoint of national interest. Consequently, in 1944, the Congress authorized the creation of the National System of Interstate and Defense Highways, not to exceed 40,000 miles in length. In 1956, Congress extended the system to 41,000 miles and authorized for the first time a long-range program to complete the system. Federal funds of \$37 billion, providing 90 percent of the total estimated cost, are authorized for the fiscal years 1957 to 1971.

The Federal-Aid Highway Act of 1944 authorized the first specific funds for Federal-aid highways in urban areas, and established the Federal-aid secondary system, consisting of important feeder roads linking the farms, factories, distribution outlets, and smaller communities with the primary system.

Alaska and Hawaii.—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

No. 753. EXISTING RURAL AND MUNICIPAL MILEAGE, BY GOVERNMENTAL CONTROL: 1930 TO 1961

[In thousands. As of December 31. Beginning 1959, includes Alaska and Hawaii. Municipal roads are those within incorporated places, densely populated New England towns, and certain of the more populous unincorporated areas. All other roads are classed as rural. See also *Historical Statistics, Colonial Times to 1957*, series Q 246, and, for similar but not exactly comparable data, series Q 247 and Q 251]

GOVERNMENTAL CONTROL	1930	1940	1950	1955	1957	1958	1959	1960	1961
Total mileage.....			3,313	3,418	3,454	3,479	3,511	3,546	3,573
Rural mileage.....	3,009	2,990	2,990	3,045	3,064	3,074	3,094	3,116	3,127
Under State control.....	324	524	581	619	636	643	654	659	665
Under local control.....	2,685	2,466	2,336	2,333	2,329	2,330	2,333	2,345	2,346
Under Federal control.....			73	93	99	101	107	112	116
Municipal mileage.....	n.a.	-----	323	373	389	405	416	430	446
Under State control.....	n.a.	27	36	42	45	47	48	50	54
Under local control.....	n.a.	n.a.	287	331	344	358	368	380	392

n.a. Not available.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 754. EXISTING MILEAGE OF RURAL ROADS: 1930 TO 1961

[In thousands. As of December 31. Beginning 1959, includes Alaska and Hawaii. For definition of rural roads, see headnote, table 753. See also *Historical Statistics, Colonial Times to 1957*, series Q 247-250, for similar but not exactly comparable data]

TYPE AND CONTROL	1930	1940	1950	1955	1957	1958	1959	1960	1961
All rural roads.....	3,009	2,990	2,990	3,045	3,064	3,074	3,094	3,116	3,127
Primary State highways.....	324	329	363	387	391	395	403	403	406
Secondary State highways.....		81	88	91	97	98	101	105	106
County roads under State control.....	114	122	131	135	136	136	136	137	137
County and local roads ¹	2,685	2,466	2,417	2,436	2,441	2,445	2,455	2,472	2,478
Surfaced rural roads.....	694	1,340	1,679	1,942	2,021	2,083	2,125	2,165	2,179
Primary State highways.....	302	351	381	386	391	398	399	401	
Secondary State highways.....	65	73	84	90	92	96	100	101	
County roads under State control.....	55	83	103	107	109	110	111	113	
County and local roads ¹	467	918	1,172	1,374	1,438	1,491	1,521	1,555	1,564
Nonsurfaced rural roads ²	2,315	1,650	1,311	1,103	1,043	991	969	951	948
Primary State highways.....	97	27	12	6	5	4	4	4	5
Secondary State highways.....		16	15	7	7	6	5	5	5
County roads under State control.....		59	39	28	28	27	26	25	24
County and local roads ^{1,2}	2,218	1,548	1,245	1,062	1,003	954	934	917	914

¹ Includes mileage in national and State parks, forests, reservations, etc., not included as part of State or local systems.

² Includes mileage not classified by type of surface.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 755. HIGHWAY CONSTRUCTION—CONTRACTS AWARDED, BY OWNERSHIP, SOURCE OF FUNDS, AND TYPE OF FACILITY: 1947 TO 1962

[In millions of dollars. Beginning 1959, includes Alaska and Hawaii. Includes force-account work started on Federal and State projects]

OWNERSHIP, SOURCE OF FUNDS, AND TYPE OF FACILITY	1947	1950	1955	1957	1958	1959	1960	1961	1962
All construction.....	1,108	1,816	2,992	3,917	4,585	3,805	4,756	4,482	4,881
Federally owned.....	25	36	59	92	96	86	129	92	85
State owned.....	892	1,492	2,560	3,311	3,996	3,213	3,901	3,803	4,241
Federally aided projects:									
Total value.....	635	798	1,256	2,390	3,480	2,638	3,097	3,168	3,253
Federal funds.....	329	415	667	1,614	2,504	1,877	2,218	2,289	2,506
Independent State projects:									
Total value.....	257	694	1,304	921	507	575	804	634	988
Toll facilities.....	n.a.	228	695	343	44	59	165	92	326
Locally owned ¹	191	289	374	514	494	506	725	588	555

n.a. Not available.

¹ By municipalities, counties, and local level special districts.

Source: Department of Commerce, Bureau of the Census. Published in Department of Commerce, Business and Defense Services Administration, *Construction Review*.

Road Mileage

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No. 756. EXISTING ROAD MILEAGE—MUNICIPAL MILEAGE AND RURAL MILEAGE, BY TYPE AND GOVERNMENTAL CONTROL, BY STATES: 1961

[As of December 31. For definition of municipal and rural roads, see headnote, table 753. Compiled for latest available year from reports of State authorities and planning survey data]

STATE	Total rural and municipal	Muni-cipal	RURAL				
			Total	Type		Governmental control	
				Surfaced	Nonsur-faced	State ¹	Local
United States	3,573,046	445,821	3,127,225	2,179,499	947,726	665,256	2,346,146
Alabama	74,022	9,678	64,344	51,533	12,811	3 16,760	47,584
Alaska	4,929	316	4,613	2,270	2,334	4,222	291
Arizona	39,136	5,119	34,017	12,714	21,303	4,692	16,214
Arkansas	79,176	6,393	72,783	43,791	28,992	10,387	60,220
California	150,198	33,333	116,865	71,949	44,916	14,830	78,000
Colorado	78,837	5,429	73,408	37,010	36,398	7,842	64,935
Connecticut	16,915	5,762	11,153	10,979	174	2,726	8,427
Delaware	4,661	631	4,030	3,771	259	3 4,030	-----
Dist. of Columbia	1,238	1,238	-----	-----	-----	-----	-----
Florida	70,901	17,201	53,700	32,077	21,623	14,044	39,656
Georgia	96,967	13,520	88,447	47,257	36,190	14,626	68,793
Hawaii	3,120	668	2,452	2,250	193	1,060	1,325
Idaho	42,354	2,424	39,930	24,519	15,411	4,648	27,543
Illinois	126,892	24,571	102,321	82,473	19,848	12,844	89,477
Indiana	102,817	16,716	87,101	79,190	7,911	9,966	77,135
Iowa	111,652	11,901	99,661	90,349	9,312	9,025	90,636
Kansas	132,873	8,883	123,990	75,965	48,025	9,909	114,073
Kentucky	69,262	4,671	64,591	49,008	15,583	19,761	44,566
Louisiana	49,307	8,679	40,628	32,474	8,154	3 14,081	26,547
Maine	20,882	2,024	18,858	16,271	2,587	3 10,834	7,893
Maryland	22,571	3,888	18,683	18,477	206	4,570	14,004
Massachusetts	26,438	9,864	16,574	15,095	1,479	2,108	14,466
Michigan	111,209	17,225	93,984	74,176	18,808	8,017	85,967
Minnesota	124,588	14,449	110,139	92,100	18,039	11,295	97,387
Mississippi	63,903	5,154	58,839	54,076	4,763	9,759	48,877
Missouri	112,945	13,618	99,327	88,918	10,409	28,796	60,984
Montana	75,309	1,763	73,546	28,600	44,937	11,119	54,707
Nebraska	102,552	5,859	96,693	57,074	39,619	9,068	87,344
Nevada	44,603	1,045	43,558	12,997	30,561	3 6,136	37,422
New Hampshire	14,098	1,464	12,634	9,802	2,882	3,825	8,708
New Jersey	32,337	12,368	19,969	17,710	2,250	1,891	18,078
New Mexico	63,510	3,055	60,455	14,180	46,275	11,301	44,109
New York	106,921	17,360	89,561	76,596	12,965	13,516	76,035
North Carolina	81,395	11,431	69,964	59,851	10,113	3 68,602	1,362
North Dakota	102,274	2,802	99,472	55,662	43,810	6,088	92,845
Ohio	104,463	20,566	83,897	81,958	1,939	16,007	67,800
Oklahoma	103,973	9,509	94,464	56,923	37,541	11,262	82,600
Oregon	74,617	5,638	68,979	40,877	28,102	8,322	33,917
Pennsylvania	109,121	17,526	91,595	69,783	21,812	42,112	49,175
Rhode Island	4,363	3,048	1,315	1,224	91	724	591
South Carolina	56,721	5,322	51,309	28,203	23,196	25,945	25,454
South Dakota	91,646	2,697	88,949	48,298	40,651	7,204	80,525
Tennessee	75,314	8,411	66,903	63,689	3,214	8,087	57,938
Texas	283,009	38,694	194,315	119,901	74,414	54,354	139,961
Utah	34,520	3,950	30,570	15,353	15,217	5,003	17,722
Vermont	13,740	881	12,859	10,708	2,151	2,076	10,760
Virginia	56,882	6,073	50,809	49,733	1,076	3 49,058	670
Washington	60,633	7,798	52,835	40,426	12,409	6,219	38,763
West Virginia	34,599	3,022	31,577	20,164	11,413	3 30,082	625
Wisconsin	98,424	11,985	86,459	79,081	7,358	10,408	75,978
Wyoming	60,139	1,109	59,030	11,978	47,052	5,145	50,864
¹ Includes 6,132 miles of State park, forest, institutional, and other roads, rural and municipal, that are not part of State or local highway systems. Also includes 3,370 miles of toll roads, bridges, tunnels, etc.							
² Comprises mileage of roads not forming a part of State or local highway systems.							
³ Includes mileage of county roads under State control in Alabama (8 counties), Delaware, Nevada, North Carolina, Virginia (all but 2 counties), and West Virginia; farm-to-market system in Louisiana; and the State-aid system in Maine.							

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics, 1961*, and records.

No. 757. MILEAGE AND COST OF DESIGNATED FEDERAL-AID HIGHWAY SYSTEMS:
1917 TO 1961

[Includes Hawaii and Puerto Rico, and, beginning 1957, Alaska. See also *Historical Statistics, Colonial Times to 1957*, series Q 261-264]

YEAR	MILES OF HIGHWAY		COST (\$1,000) ³		
	Total existent ¹	Completed during year ²	Total	Federal funds	State funds
1917-1921.....		12,919	221,740	95,054	126,686
1925.....	178,797	11,001	220,921	100,030	120,891
1930.....	193,049	10,339	236,520	99,830	136,081
1935.....	214,000	12,811	242,420	218,112	24,307
1940.....	234,112	11,549	269,216	149,724	119,492
1945.....	232,772	3,035	101,037	76,485	24,552
1950.....	640,753	19,876	753,199	389,578	363,621
1955.....	741,824	22,571	1,287,364	665,913	621,451
1956.....	777,514	23,609	1,444,059	756,926	687,133
1957.....	808,672	22,424	1,714,240	968,564	745,676
1958.....	830,569	28,187	2,744,486	1,669,015	1,075,471
1959.....	854,294	32,633	3,708,857	2,517,502	1,191,355
1960.....	866,841	20,969	3,264,033	2,272,518	991,515
1961.....	879,539	21,313	3,264,815	2,339,372	925,443

¹ Through 1945, total existing mileage of Federal-aid primary system; beginning 1950, includes secondary system. Through 1955, data as of June 30; thereafter, as of December 31.

² Comprises construction and reconstruction mileage.

³ Represents actual expenditures of funds on calendar-year basis. Beginning 1935, includes money spent on public works and defense highways. Beginning 1940, includes secondary highways.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*, and *Annual Report, 1962*.

No. 758. MILEAGE OF DESIGNATED FEDERAL-AID HIGHWAY SYSTEMS—STATES AND PUERTO RICO: 1961

[In miles. As of December 31. See text, p. 555]

STATE OR OTHER AREA	PRIMARY HIGH-WAY SYSTEM		STATE OR OTHER AREA	PRIMARY HIGH-WAY SYSTEM	
	Total miles	National system of interstate highways		Total miles	National system of interstate highways
		Secondary highway system			Secondary highway system
Total.....	266,344	40,790	Missouri.....	8,948	1,105
Alabama.....	6,441	875	Montana.....	6,457	1,180
Alaska.....	3,306	3,234	Nebraska.....	5,870	491
Arizona.....	2,770	1,161	Nevada.....	2,199	534
Arkansas.....	3,992	518	New Hampshire.....	1,234	214
California.....	9,482	2,177	New Jersey.....	2,119	376
Colorado.....	4,584	948	New Mexico.....	4,030	1,005
Connecticut.....	1,269	293	New York.....	10,618	1,227
Delaware.....	657	40	North Carolina.....	6,564	760
District of Columbia.....	167	28	North Dakota.....	4,450	568
Florida.....	5,378	1,120	Ohio.....	7,991	1,486
Georgia.....	8,889	1,104	Oklahoma.....	8,297	796
Hawaii.....	524	48	Oregon.....	4,137	731
Idaho.....	3,241	612	Pennsylvania.....	8,552	1,575
Illinois.....	10,825	1,586	Rhode Island.....	478	71
Indiana.....	6,004	1,121	South Carolina.....	5,456	679
Iowa.....	10,204	709	South Dakota.....	6,070	679
Kansas.....	7,784	801	Tennessee.....	6,777	1,048
Kentucky.....	4,545	696	Texas.....	17,387	3,024
Louisiana.....	3,331	683	Utah.....	2,306	935
Maine.....	1,927	312	Vermont.....	1,619	324
Maryland.....	2,356	354	Virginia.....	5,610	1,053
Massachusetts.....	2,340	462	Washington.....	4,016	726
Michigan.....	7,100	1,079	West Virginia.....	2,779	523
Minnesota.....	8,821	898	Wisconsin.....	6,362	452
Mississippi.....	5,829	678	Wyoming.....	3,622	916
			Puerto Rico.....	550	1,085

Source: Department of Commerce, Bureau of Public Roads; *Annual Report, 1962*.

Highway Projects

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No. 759. FEDERAL-AID HIGHWAY PROJECTS—STATES AND PUERTO RICO: 1962

[Money figures in millions of dollars. As of June 30. Comprises projects financed from Federal-aid primary, secondary, urban, and interstate funds]

STATE OR OTHER AREA	COMPLETED DURING FISCAL YEAR			UNDER CONSTRUCTION			PLANS APPROVED—NOT UNDER CONSTRUCTION			FEDERAL-AID FUNDS	
	Total cost	Federal funds	Miles	Total cost	Federal funds	Miles	Total cost	Federal funds	Miles	Available for pro- gramming ¹	Pro- grammed only ²
Total	3,307.6	2,385.8	21,046	9,050.5	6,722.4	28,022	1,328.8	1,005.3	3,294	1,727.8	1,297.5
U.S.	3,295.2	2,379.8	21,012	9,025.1	6,710.5	27,958	1,317.6	1,000.0	3,283	1,716.5	1,293.4
Ala.	76.9	49.1	698	159.3	110.3	876	21.0	16.0	89	41.8	53.9
Alaska	7.7	6.3	163	55.6	48.0	201	9.3	8.6	37	25.0	39.3
Ariz.	19.9	16.6	95	95.0	83.5	354	11.4	10.2	48	3.0	40.6
Ark.	38.6	24.4	325	145.9	106.5	944	18.4	18.1	108	19.2	33.3
Calif.	231.7	183.2	283	1,039.4	692.8	455	92.7	76.7	48	92.1	59.1
Colo.	45.8	31.2	428	57.3	41.0	253	7.1	6.1	39	30.7	18.7
Conn.	55.4	39.1	61	148.3	115.5	37	.5	.3	1	12.7	.6
Del.	2.8	2.0	3	42.1	34.0	29	7.3	6.2	6	21.1	8.7
Dist. of Col.	22.4	17.8	5	90.6	69.5	12	19.4	15.9	2	39.7	4.1
Fla.	66.1	53.3	243	106.9	79.1	485	18.7	15.4	79	50.6	21.2
Ga.	47.2	29.7	441	279.6	208.6	1,031	42.4	31.9	111	14.6	77.3
Hawaii	6.0	3.0	8	15.2	10.6	11				22.0	10.5
Idaho	25.7	20.7	215	51.9	42.5	421	11.9	9.6	58	11.3	25.9
Ill.	182.5	132.2	656	470.3	364.3	878	73.8	56.3	113	52.0	32.7
Ind.	107.9	76.0	419	202.0	150.1	311	18.0	12.4	163	111.6	37.8
Iowa	52.4	34.0	877	87.0	60.2	1,163	14.2	11.7	91	17.7	13.8
Kans.	58.4	39.0	1,149	61.2	41.8	1,112	14.9	9.5	151	29.0	14.9
Ky.	76.1	58.9	218	170.6	126.5	427	27.3	22.5	33	11.9	20.4
La.	49.6	33.3	233	274.4	216.8	495	14.2	10.7	56	30.1	34.9
Maine	19.4	12.9	73	37.9	25.6	143	11.9	10.3	29	14.8	7.8
Md.	54.9	39.9	154	116.6	91.4	186	22.8	15.1	38	73.3	28.0
Mass.	65.0	49.4	45	190.1	135.5	100	81.8	62.9	63	42.7	23.3
Mich.	176.7	125.3	869	315.0	237.5	1,296	57.9	45.3	137	28.1	12.1
Minn.	97.3	63.4	1,524	217.4	172.2	1,193	26.5	20.0	128	27.8	43.8
Miss.	49.2	33.7	519	116.3	85.3	1,065	13.6	10.5	97	18.4	36.0
Mo.	75.2	54.7	1,005	233.9	175.4	1,342	34.4	23.8	98	46.2	21.7
Mont.	35.0	25.8	318	115.9	92.0	692	10.1	8.3	95	48.7	22.6
Neb.	48.4	30.9	747	108.2	79.9	1,285	14.5	11.8	95	10.0	23.9
Nev.	19.6	17.5	148	61.0	57.2	213	10.0	9.4	39	23.4	10.3
N.H.	14.4	9.8	37	40.0	30.8	63	4.0	3.6	4	9.5	1.2
N.J.	44.8	30.0	30	267.8	209.9	113	64.8	53.7	29	93.4	25.4
N. Mex.	35.7	27.3	232	50.3	41.5	199	11.6	10.2	35	20.0	22.3
N.Y.	219.7	150.4	308	712.8	500.9	515	217.9	155.9	120	11.7	.6
N.C.	48.0	29.7	556	124.1	82.2	555	2.8	1.5	17	26.8	27.2
N. Dak.	34.7	23.1	1,052	35.8	23.4	942	6.1	4.7	77	19.6	.5
Ohio	173.8	132.5	222	373.9	278.7	450	49.3	36.1	65	15.4	43.3
Okla.	53.1	33.6	626	84.8	59.1	760	24.4	14.8	195	39.2	9.3
Oreg.	40.7	30.5	247	150.8	123.9	338	21.0	12.2	59	14.5	13.0
Pa.	86.6	60.7	112	403.1	290.0	474	47.0	31.7	52	108.5	89.5
R.I.	6.8	3.9	13	67.9	51.7	33	4.6	3.9	4	8.0	3.3
S.C.	42.0	30.8	585	86.3	59.5	1,185	10.6	7.6	54	19.0	10.7
S. Dak.	37.5	29.9	634	51.1	41.1	634	2.7	1.6	59	12.7	16.4
Tenn.	88.9	71.0	765	283.2	219.5	873	27.3	23.6	61	35.0	39.2
Tex.	246.0	185.4	1,691	314.8	229.3	1,445	22.4	17.8	75	78.6	57.7
Utah	21.3	17.9	128	60.5	53.9	203	18.0	15.7	66	9.8	32.9
Vt.	33.0	26.0	64	48.3	38.6	85	1.2	.6	3	22.6	6.9
Va.	56.0	39.9	308	363.1	300.5	611	20.3	16.4	59	74.6	38.6
Wash.	40.7	25.4	377	162.7	124.8	329	24.8	14.4	49	37.0	9.5
W. Va.	36.3	27.4	143	106.6	75.1	129	8.6	6.8	15	39.9	44.7
Wis.	80.2	57.1	645	109.7	71.4	579	15.7	11.4	108	27.0	20.2
Wyo.	41.2	34.2	315	61.0	51.1	403	6.5	5.3	25	25.3	3.8
P.R.	12.4	6.0	34	25.4	11.9	64	11.2	5.3	11	9.3	4.1

¹ Relates to additional projects.

² Initial commitment of funds.

Source: Department of Commerce, Bureau of Public Roads; *Annual Report, 1962*.

NO. 760. HIGHWAY AND STREET RECEIPTS AND DISBURSEMENTS: 1950 TO 1963

[In millions of dollars. Federal and State data are for calendar years; local data for varying fiscal years. Includes Alaska, Hawaii, and Puerto Rico. Data for municipal places and streets include all municipalities and other political subdivisions urban in character. See also *Historical Statistics, Colonial Times to 1957*, series Q 280-309, for related but not exactly comparable data]

SOURCE AND PURPOSE	1950	1956	1959	1960	1961	1962 (prel.)	1963 est.
SOURCE OF RECEIPTS							
Total funds available	4,487	8,354	10,886	10,761	11,491	12,128	12,973
Federal Government ¹	72	107	157	202	200	238	248
Motor fuel and vehicle taxes ²	642	2,240	2,827	2,834	3,061	3,254	
General fund appropriations	492	381	156	197	208	247	260
Investment income and other receipts ⁴	8	25	32	39	45	47	48
Intergovernmental payments	-431	-797	-3,080	-2,551	-2,745	-2,938	-3,235
Funds drawn from (+) or placed in (-) reserves	+3	-144	+809	-310	-142	-179	-79
State agencies	2,557	5,425	7,410	7,125	7,688	8,158	8,861
Motor fuel and vehicle taxes ²	2,270	3,909	4,428	4,731	4,868	5,129	5,313
Tolls	72	251	396	426	450	475	494
Parking fees		1	1	1	1	1	1
General fund appropriations	52	116	48	54	87	63	58
Investment income and other receipts ⁴	47	113	136	163	168	162	175
Bond issue proceeds ⁶	400	1,067	669	680	718	1,045	605
Intergovernmental payments	-182	-135	1,998	1,387	1,529	1,647	1,895
Funds drawn from (+) or placed in (-) reserves	-102	+103	-266	-317	-133	-364	+320
Local rural governments	980	1,422	1,610	1,635	1,690	1,751	1,809
Motor fuel and vehicle taxes ²	2	3	9	9	10	11	12
Tolls	12	15	20	19	19	20	21
Parking fees					1	1	1
Property taxes and assessments	327	464	512	513	520	525	530
General fund appropriations	81	113	153	170	160	165	165
Investment income and other receipts ⁴	30	52	48	52	49	50	51
Bond issue proceeds ⁶	90	102	153	85	120	60	100
Intergovernmental payments	468	675	736	797	818	865	895
Funds drawn from (+) or placed in (-) reserves	-30	-2	-21	-10	-7	+54	+34
Municipalities	878	1,400	1,709	1,799	1,913	1,981	2,055
Motor fuel and vehicle taxes ²	20	57	66	70	72	74	77
Tolls	32	49	54	54	56	58	60
Parking fees	21	27	56	74	84	94	110
Property taxes and assessments	153	253	389	340	355	390	405
General fund appropriations	412	425	346	438	435	490	505
Investment income and other receipts ⁴	39	66	78	90	87	87	89
Bond issue proceeds ⁶	162	313	336	454	375	280	350
Intergovernmental payments	145	258	346	367	398	426	445
Funds drawn from (+) or placed in (-) reserves	-106	-52	+38	-88	+51	+82	+14
PURPOSE OF DISBURSEMENT							
Total disbursements	4,487	8,354	10,886	10,761	11,491	12,128	12,973
Federal Government	72	107	157	202	200	238	248
Capital outlay	55	87	102	141	139	169	178
Maintenance	6	8	25	27	28	29	30
Administration and research ⁶	11	12	30	34	33	40	40
State agencies	2,557	5,425	7,410	7,125	7,688	8,158	8,861
Capital outlay	1,648	3,891	5,402	4,983	5,437	5,760	6,329
Maintenance	514	775	923	1,006	1,040	1,118	1,104
Administration and research ⁶	113	191	287	296	319	341	367
Highway police and safety	79	149	218	236	256	279	304
Interest	60	233	272	304	306	318	341
Debt retirement ⁷	143	186	308	300	330	342	356
Local rural governments	980	1,422	1,610	1,635	1,690	1,751	1,809
Capital outlay	265	474	521	500	511	513	515
Maintenance	557	764	874	922	959	1,005	1,054
Administration and research ⁶	44	65	86	88	95	100	105
Highway police and safety	(3)		5	8	9	10	11
Interest	31	31	32	32	33	33	34
Debt retirement ⁷	83	88	92	85	83	90	90
Municipalities	878	1,400	1,709	1,799	1,913	1,981	2,055
Capital outlay	339	563	631	666	712	740	769
Maintenance	348	542	659	685	720	746	777
Administration and research ⁶	51	44	62	69	72	74	77
Highway police and safety	(6)	61	72	83	86	89	95
Interest	44	48	75	80	88	92	92
Debt retirement ⁷	96	142	210	216	235	240	245

¹ Includes forest highway and other funds administered by the Bureau of Public Roads, as well as funds of other Federal agencies not derived from the Highway Trust Fund.

² Excludes amounts allocated for collection expenses and nonhighway purposes.

³ Receipts of Federal Highway Trust Fund.

⁴ Includes miscellaneous taxes and fees.

⁵ Par value of long-term obligation. Premiums and discounts on sale of bonds included in investment income and other receipts. Excludes short-term notes and refunding issues.

⁶ Includes engineering and equipment costs not charged to capital outlay and maintenance, and miscellaneous expenditures.

⁷ Par value of long-term obligations. Redemption premiums and discounts included with interest payments. Excludes redemption of short-term notes, or by refunding of notes.

⁸ Included with administration and research.

Source: Department of Commerce, Bureau of Public Roads; releases.

No. 761. PUBLIC HIGHWAY DEBT—LONG-TERM HIGHWAY OBLIGATIONS OF STATE AND LOCAL GOVERNMENTS: 1950 TO 1963

[In millions of dollars. State data are for calendar year; local data are for varying fiscal years. Beginning 1959, includes Alaska and Hawaii. Excludes duplicated and interunit obligations except as noted. Municipal obligations include data for all municipalities and other political subdivisions urban in character. See also *Historical Statistics, Colonial Times to 1957*, series Q 279, for State obligations outstanding]

ITEM	1950	1955	1957	1958	1959	1960	1961	1962 (proj.)	1963 est.
Total debt issued ¹	652	1,174	1,200	1,352	1,158	1,206	1,213	1,345	1,055
State obligations.....	400	646	702	913	669	680	718	1,045	605
County and local rural obligations.....	90	205	123	140	153	190	120	60	100
Municipal obligations.....	162	323	375	299	336	336	375	240	350
Total debt redeemed ²	322	421	535	543	610	616	648	672	691
State obligations.....	143	191	253	252	308	300	330	342	356
County and local rural obligations.....	83	89	92	94	92	96	83	90	90
Municipal obligations.....	96	141	190	197	210	220	235	240	245
Total debt outstanding	4,436	9,658	11,422	12,278	12,576	13,166	13,703	14,376	14,740
State obligations.....	2,096	6,619	7,945	8,641	9,004	9,384	9,772	10,475	10,724
County and local rural obligations.....	872	1,027	1,084	1,130	1,186	1,280	1,044	1,014	1,024
Municipal obligations.....	1,468	2,012	2,393	2,507	2,386	2,502	2,887	2,887	2,902

¹ Excludes refunding issues.

² Excludes redemptions by refunding.

Source: Department of Commerce, Bureau of Public Roads; releases.

No. 762. STATE-HIGHWAY SYSTEMS—EXISTING MILEAGE, MILEAGE BUILT, FUNDS AVAILABLE, AND DISBURSEMENTS: 1940 TO 1961

[Data refer to calendar years for most States. Beginning 1959, includes Alaska and Hawaii. For definition of rural and municipal roads, see headnote, table 753. See also *Historical Statistics, Colonial Times to 1957*, series Q 255-259, for data on total mileage built by State highway departments]

ITEM	1940	1950	1955	1957	1959	1960	1961
Total mileage at end of year	551,766	608,468	661,519	681,642	702,198	709,054	718,821
Primary rural State-highway systems.....	329,472	363,213	386,611	391,397	402,686	402,805	406,199
Nonsurfaced roads.....	26,991	12,007	6,303	5,362	4,355	4,157	5,476
Surfaced roads.....	302,481	351,206	380,308	386,035	398,331	398,648	400,723
Low type ¹	180,091	168,554	169,458	165,423	162,080	169,691	156,795
High type ¹	122,390	182,652	210,850	220,612	236,251	238,957	243,928
Secondary rural roads.....	195,245	209,339	222,729	231,552	236,972	240,916	242,925
Municipal extensions of State-highway systems ²	27,049	35,916	41,912	45,226	48,390	50,158	53,565
Other State roads ³	-----	-----	10,267	13,467	14,150	15,175	16,182
Total mileage built during year by State-highway departments	32,594	55,487	53,559	53,235	50,232	49,443	44,279
Graded and drained.....	2,207	3,364	1,545	1,798	2,287	2,076	1,743
Surfaced.....	30,387	52,123	52,014	51,437	47,945	47,367	42,536
State controlled.....	29,695	44,265	41,120	39,675	36,282	36,944	33,449
Graded and drained.....	1,423	1,784	694	374	185	328	372
High-type surface ¹	5,223	13,379	17,672	19,476	21,892	22,013	20,554
Low-type surface ¹	23,049	29,102	22,754	19,825	14,205	14,603	12,523
State-highway funds available ⁴ ₅ mil. dol.	2,038	5,068	9,547	10,469	12,301	12,303	13,102
Disbursements of State-highway funds ⁴	1,678	3,562	6,034	7,702	9,277	8,957	9,627

¹ For 1940, low type was distinguished from high type by quality of surfacing material used; for 1950, also by rigidity of base; and beginning 1957, also by combined thickness of surface and base.

² Consists of streets that provide necessary municipal connecting links into or through a municipality, regardless of administrative control.

³ Mileage of State park, forest, institutional, toll, and other roads under State control.

⁴ Includes funds transferred to or from local units and proceeds of highway-user imposts allotted by the State treasurer for county and other local roads and streets, and nonhighway purposes. See also tables 763 and 764.

⁵ Includes accumulated reserves.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 763. DISBURSEMENTS OF STATE HIGHWAY FUNDS—STATES: 1930 TO 1961

[In millions of dollars. Comprises disbursements, whether from current revenues or proceeds of loans, for construction, maintenance, interest and principal payments on highway bonds, transfers to local units, and miscellaneous disbursements. Includes transactions by State toll authorities. Beginning 1940, covers calendar years; figures for earlier years for many States represent fiscal years]

STATE	1930	1940	1945	1950	1955	1958	1959	1960	1961
United States ¹	1,331	1,678	1,302	3,562	6,034	8,479	9,277	8,957	9,627
Alabama	20	28	26	49	87	117	140	174	177
Alaska	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23	19	25
Arizona	6	9	6	20	33	58	64	72	86
Arkansas	40	18	15	46	55	76	82	95	91
California	56	99	138	268	558	726	761	786	1,003
Colorado	11	15	12	38	56	99	93	91	95
Connecticut	16	23	15	38	79	188	180	161	160
Delaware	8	4	3	32	26	44	43	36	29
Dist. of Columbia	2	7	4	11	24	31	41	48	58
Florida	20	39	36	93	152	237	287	316	266
Georgia	17	39	24	74	109	151	170	167	175
Hawaii	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25	23	24
Idaho	8	8	6	19	27	41	49	44	51
Illinois	53	71	53	113	220	563	481	475	438
Indiana	27	40	35	69	200	188	225	241	246
Iowa	57	33	23	79	109	168	179	169	159
Kansas	17	21	16	50	110	129	134	109	118
Kentucky	20	26	20	67	102	143	188	138	189
Louisiana	30	30	22	71	115	183	225	204	182
Maine	18	14	10	24	65	61	65	62	63
Maryland	20	27	19	84	133	168	171	166	187
Massachusetts	24	38	21	98	203	236	277	237	223
Michigan	48	67	50	106	249	344	381	418	496
Minnesota	39	31	23	65	101	158	179	167	183
Mississippi	11	31	23	42	75	99	114	110	110
Missouri	44	28	21	53	105	151	162	165	177
Montana	8	12	7	22	30	52	55	54	58
Nebraska	16	20	16	36	59	81	79	95	89
Nevada	3	4	2	9	15	26	28	22	27
New Hampshire	10	8	7	14	30	44	47	50	48
New Jersey	49	68	46	188	303	212	245	221	305
New Mexico	10	13	8	26	39	71	72	64	62
New York	109	199	114	304	471	641	781	652	688
North Carolina	26	40	29	136	141	173	180	179	200
North Dakota	6	7	6	22	28	54	60	50	47
Ohio	68	93	76	147	383	526	543	523	535
Oklahoma	27	24	24	73	113	158	149	134	147
Oregon	19	18	14	50	79	98	123	113	125
Pennsylvania	104	128	73	279	350	454	477	423	450
Rhode Island	4	8	6	14	30	37	37	42	44
South Carolina	23	23	22	46	57	92	116	109	104
South Dakota	8	9	6	20	34	49	57	57	71
Tennessee	56	34	32	79	108	153	176	187	204
Texas	65	80	67	178	282	450	531	498	491
Utah	5	6	6	15	23	46	66	49	57
Vermont	9	8	4	10	17	33	39	43	50
Virginia	23	28	29	76	112	182	163	211	249
Washington	16	40	29	78	127	190	181	171	213
West Virginia	24	26	27	51	64	84	106	110	107
Wisconsin	27	41	28	68	109	166	181	171	188
Wyoming	4	6	3	14	22	47	47	44	49

n.a. Not available.

¹ Beginning 1959, includes Alaska and Hawaii.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

Highway Funds

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No. 764. STATE HIGHWAY FUNDS AVAILABLE, BY SOURCE AND DISBURSEMENTS, BY PURPOSE—STATES: 1961

[In millions of dollars.] Comprises receipts and disbursements of all State imposts on highway users, all other funds available to State highway departments, and State funds other than those of highway department which were reported as being applied to highway purposes. Includes transactions of interstate and intrastate toll authorities that are operated by State or quasi-State agencies. See also *Historical Statistics, Colonial Times to 1957*, series Q 266-278!

STATE	FUNDS AVAILABLE				DISBURSEMENTS				For county and local roads and streets ³	
	Total	Motor-vehicle fees, motor-fuel and motor-carrier taxes	Federal funds	Income from issue of bonds, notes, etc.	All other sources ¹	Total ²	For State-administered highways ³			
							Capital outlay, roads and bridges ⁴	Maintenance ⁴		
United States	13,102	5,511	2,729	710	4,152	9,627	5,105	1,020	1,192	1,650
Alabama	199	87	66	15	31	177	83	14	19	58
Alaska	29	6	16	—	8	25	17	5	1	—
Arizona	91	42	33	—	17	86	55	8	6	13
Arkansas	120	57	37	—	26	91	48	12	15	14
California	1,186	637	270	5	274	1,003	586	43	69	165
Colorado	103	59	33	—	11	95	49	9	13	20
Connecticut	222	73	37	29	83	160	77	21	34	10
Delaware	37	14	2	5	16	29	10	5	13	1
Dist. of Columbia	63	21	19	21	1	58	—	—	—	54
Florida	405	187	60	21	137	266	141	21	34	14
Georgia	316	107	60	66	83	175	97	11	13	42
Hawaii	40	14	1	1	24	24	11	3	4	5
Idaho	55	27	24	—	4	51	29	6	5	10
Illinois	573	255	134	—	185	438	186	33	43	156
Indiana	310	145	79	—	86	246	119	22	29	68
Iowa	189	110	38	—	41	159	72	14	9	62
Kansas	143	66	45	—	32	118	63	20	15	17
Kentucky	381	86	59	167	69	189	125	29	26	7
Louisiana	253	80	55	—	119	182	101	19	36	22
Maine	86	35	14	7	31	63	32	16	11	3
Maryland	245	90	41	43	70	187	64	13	45	61
Massachusetts	314	106	57	45	106	223	101	27	69	16
Michigan	661	227	96	120	219	496	285	26	63	116
Minnesota	254	105	65	5	79	183	100	19	12	44
Mississippi	140	61	39	—	40	116	53	10	13	37
Missouri	204	94	80	—	30	177	129	29	14	2
Montana	66	26	30	—	10	58	43	6	3	4
Nebraska	90	52	34	—	4	89	47	9	4	28
Nevada	34	16	15	—	3	27	18	4	2	2
New Hampshire	51	20	21	13	—4	48	26	11	8	2
New Jersey	659	188	61	—	410	305	102	33	63	22
New Mexico	66	37	23	2	5	62	37	11	7	4
New York	1,288	374	134	2	779	688	403	78	104	76
North Carolina	265	147	41	—	77	200	93	56	35	8
North Dakota	52	23	21	—	9	47	27	5	3	12
Ohio	700	319	139	62	180	535	284	37	80	123
Oklahoma	241	102	42	55	42	147	61	14	12	40
Oregon	142	70	53	—	18	125	59	14	18	29
Pennsylvania	599	291	89	—	219	450	230	79	87	45
Rhode Island	53	27	13	6	7	44	21	6	6	1
South Carolina	135	65	38	—	32	104	64	17	11	7
South Dakota	83	28	42	—	13	71	48	6	4	13
Tennessee	214	116	66	10	22	204	103	11	11	55
Texas	549	340	139	—	70	491	297	60	24	35
Utah	67	28	27	—	11	57	39	6	6	5
Vermont	43	18	21	3	1	50	31	6	5	7
Virginia	448	116	68	2	261	249	153	47	34	10
Washington	249	122	36	—	91	213	93	21	27	40
West Virginia	111	58	30	3	20	107	63	24	18	—
Wisconsin	214	120	55	—	40	188	94	17	7	60
Wyoming	62	16	32	—	14	49	36	5	3	4

¹ Balances from 1960, totaling \$3,344 million, and miscellaneous current revenues, totaling \$808 million.

² Includes disbursements of \$222 million for collection and administration of highway-user revenues, and of \$437 million for nonhighway purposes.

³ Expenditures on county roads under State control in Ala. (8 counties), Del., N. C., Va. (all except 2 counties), and W. Va. included with those for State-administered highways.

⁴ Includes some administration, engineering, and miscellaneous disbursements.

⁵ Disbursements for administration, engineering, and miscellaneous; State highway police and safety; bond interest; and bond retirement.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics, 1961*.

Roads and Motor Vehicles

No. 765. FEDERAL AND STATE MOTOR-FUEL TAX—STATES: 1940 TO 1962

[Cents per gallon. Where 2 figures appear in a cell, the former is tax in effect at beginning of year, the latter is tax at end of year. See also *Historical Statistics, Colonial Times to 1957*, series Q 328-329]

STATE	1940	1950	1960	1961	1962 ¹	STATE	1940	1950	1960	1961	1962 ¹
Federal tax.....	1-1.5	1.5	4	4	4	Missouri.....	2	2	3	3-5	5
State average ²	3.96	4.65	5.94	6.09	-----	Montana.....	5	6	4-6	6	6
Alabama.....	6	6	7	7	7	Nebraska.....	5	6-5	7	7	7
Alaska.....	(*)	2	5-7	7-8	8	Nevada.....	4	4.5	6	6	6
Arizona.....	5	5	5	5	5	New Hampshire.....	4	4	7	7	7
Arkansas.....	6.5	6.5	6.5	6.5	6.5	New Jersey.....	3	3	5	5-6	6
California.....	3	4.5	4-6	4-6	4-6	New Mexico.....	5	7	6	6	6
Colorado.....	4	6	6	6	6	New York.....	4	4	4-6	4-6	6
Connecticut.....	3	4	6	6	6	North Carolina.....	6	7	7	7	7
Delaware.....	4	5	5	5-6	6	North Dakota.....	4	4	6	6	6
Dist. of Col.....	2	4	6	6	6	Ohio.....	4	4	7	7	7
Florida.....	7	7	7	7	7	Oklahoma.....	4	6.5	6.5	6.5	6.5
Georgia.....	6	7	6.5	6.5	6.5	Oregon.....	5	6	6	6	6
Hawaii.....	4	4	6-5	5-5	5-5	Pennsylvania.....	4	5	5	5-7	7
Idaho.....	5.1	6	6	6	6	Rhode Island.....	3	4	6.7	7	7
Illinois.....	3	3	5	5	5	South Carolina.....	6	6-7	7	7	7
Indiana.....	4	4	6	6	6	South Dakota.....	4	4	4-6	4-6	6
Iowa.....	3	4	4-6	4-6	4-6	Tennessee.....	7	7	7	7	7
Kansas.....	3	5	4-5	4-5	5	Texas.....	4	4	4-5	4-5	5
Kentucky.....	5	7	6-7	6-7	7	Utah.....	4	4	6	6	6
Louisiana.....	7	9	7	7	7	Vermont.....	4	5	4-6.5	4-6.5	6.5
Maine.....	4	6	7	7	7	Virginia.....	5	6	6-7	4-7	7
Maryland.....	4	5	6	6	6	Washington.....	5	6.5	6.5-7.5	7.5	7.5
Massachusetts.....	3	3	5.5	5.5	5.5	West Virginia.....	5	5	7	7	7
Michigan.....	3	3	6	6	6	Wisconsin.....	4	4	6	6	6
Minnesota.....	4-3	5	5	5	5	Wyoming.....	4	4	4-5	4-5	5
Mississippi.....	6	6-7	4-7	4-7	7						

¹ As of August 1.

² Weighted average, based on net gallons taxed. Beginning 1960, includes Alaska and Hawaii.

³ No tax.

⁴ Diesel fuel tax differs from gasoline tax.

⁵ State tax rate is 8 cents in Hawaii County and 5 cents in the other counties.

⁶ Trucks or combinations with more than 2 axles pay motor-fuel tax rates of 9 cents per gallon in Kentucky and Virginia. (Prior to July 1, 1960, the tax in Virginia was 8 cents.)

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 766. MOTOR FUEL CONSUMPTION, BY USE: 1940 TO 1961

[In millions of gallons, except averages. Beginning 1959, includes Alaska and Hawaii. Comprises gasoline and all other fuels under State motor fuel laws. Excludes exports and Federal purchases for military use. Obtained chiefly from reports of State authorities. See also *Historical Statistics, Colonial Times to 1957*, series Q 318-320, for highway and nonhighway usage]

ITEM	1940	1945	1950	1955	1957	1958	1959	1960	1961
Total consumption ¹	24,404	22,304	40,280	53,116	57,443	59,087	62,226	63,714	65,048
Highway.....	22,001	19,149	35,653	47,731	51,865	53,418	56,332	57,878	59,306
Nonhighway.....	2,037	2,898	4,178	4,835	5,090	5,171	5,384	5,332	5,229
Passenger vehicles.....	16,759	14,023	25,037	34,319	37,594	38,904	40,879	41,996	42,863
Passenger cars ²	16,323	13,323	24,308	33,548	36,769	38,095	40,056	41,169	42,038
Buses ³	436	700	732	771	825	809	823	827	830
Trucks and combinations.....	5,156	5,055	10,566	13,308	14,271	14,514	15,453	15,882	16,443
Average gallons consumed per vehicle.....	680	617	728	759	767	776	782	777	776
Passenger cars ²	594	517	603	644	652	664	666	661	658
Buses ³	3,050	4,300	3,752	3,021	3,125	2,996	3,108	3,040	2,957
Trucks and combinations.....	1,095	1,020	1,257	1,278	1,302	1,301	1,324	1,330	1,338
Average mileage per gallon consumed per vehicle.....	13.79	13.05	12.87	12.67	12.47	12.44	12.43	12.42	12.44
Passenger cars ²	15.29	14.95	14.95	14.53	14.40	14.30	14.30	14.28	14.38
Buses ³	6.10	5.48	5.57	5.85	5.32	5.33	5.28	5.26	5.30
Trucks and combinations.....	9.68	9.08	8.57	8.37	7.93	7.96	7.97	7.96	7.82

¹ Includes losses allowed for evaporation, handling, etc.

² Includes taxicabs and motorcycles.

³ Includes school buses.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

Operators and Licenses

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No. 767. MOTOR-VEHICLE OPERATORS AND CHAUFFEURS LICENSES—STATES: 1960 AND 1961

[In thousands. Incomplete data for some States]

STATE	PERIOD FOR WHICH ISSUED ¹		1960		1961	
	Operators	Chauffeurs	Licenses issued		Operators	Chauffeurs ³
			Licenses in force ²	Operators		
United States			87,361	38,431	4,539	88,852
Alabama	2 years	Not required	1,321	675	—	1,330
Alaska	3 years	Not required	109	37	—	105
Arizona	3 years	2 years	778	252	40	831
Arkansas	1 year	1 year	811	780	31	819
California	3 and 5 years	3 and 5 years	8,694	2,542	113	9,173
Colorado	3 years	3 years	1,092	366	32	1,121
Connecticut	2 years	1 year	4,149	747	9	4,150
Delaware	(3)	(3)	231	94	20	247
District of Columbia	3 years	Not required	842	100	—	345
Florida	2 years	2 years	2,659	2,356	302	2,766
Georgia	1 or 5 years	1 or 5 years	1,701	946	89	1,846
Hawaii	Indefinite	1 year	4,384	40	4	4,399
Idaho	2 years	1 year	420	172	21	401
Illinois	3 years	1 year	4,565	1,694	299	4,586
Indiana	2 years	1 year	2,298	1,325	234	2,396
Iowa	2 years	1 year	1,458	647	156	1,471
Kansas	2 years	2 years	1,407	594	58	1,416
Kentucky	2 years	1 year	4,254	607	5	4,280
Louisiana	2 years	1 year	1,308	549	137	1,321
Maine	1 year	Not required	446	446	—	454
Maryland	2 years	2 years	4,148	512	143	4,1456
Massachusetts	2 years	1 year	4,610	1,121	(6)	4,243
Michigan	3 years	1 year	4,078	1,378	241	4,114
Minnesota	4 years	1 year	4,1793	629	7203	4,1836
Mississippi	1 or 2 years	1 or 2 years	747	427	47	780
Missouri	3 years	1 year	2,085	374	168	2,156
Montana	2 years	2 years	356	177	20	368
Nebraska	2 years	Not required	896	125	—	911
Nevada	2 years	2 years	167	56	15	175
New Hampshire	2 years	2 years	312	177	61	333
New Jersey	1 or 3 years	Indefinite	4,2575	1,891	(6)	4,2969
New Mexico	1 to 2 years	1 year	498	181	78	483
New York	3 years	3 years	7,062	1,521	410	7,090
North Carolina	4 years	1 year	2,000	490	66	2,063
North Dakota	2 years	Not required	353	23	—	360
Ohio	3 years	3 years	4,694	2,499	224	4,919
Oklahoma	2 years	2 years	1,223	521	73	1,258
Oregon	2 years	2 years	4,949	483	59	4,976
Pennsylvania	2 years	Not required	5,770	5,770	—	5,221
Rhode Island	2 years	2 years	416	204	12	421
South Carolina	4 years	1 year	4,1097	44	(3)	4,965
South Dakota	4 years	Not required	425	36	—	460
Tennessee	2 years	2 years	1,604	104	8	1,692
Texas	2 years	1 year	4,352	1,829	941	4,691
Utah	3 and 5 years	3 and 5 years	482	63	7	529
Vermont	1 year	Not required	179	179	—	184
Virginia	3 years	1 year	1,827	735	80	1,902
Washington	2 years	Not required	1,422	700	—	1,402
West Virginia	4 years	1 year	833	284	47	831
Wisconsin	2 years	1 year	1,863	849	66	1,855
Wyoming	3 years	1 year	212	51	16	220

¹ In effect as of January 1, 1963.² Estimated from data reported by States for current and previous years; no allowance made for deaths, emigration, or revocation.³ Includes public service and other special licenses that are issued to operators of vehicles for hire.⁴ Chauffeurs' licenses not added to operators' licenses since an operator's license is required in addition to the chauffeur's license.⁵ Issued for 2-year period, but drivers meeting certain requirements may obtain licenses for indefinite period.⁶ Special bus operators' licenses are required; numbers issued not available.⁷ Includes 9,517 school bus operators' licenses in 1960, and 9,785 in 1961.⁸ A permit to operate "For hire" vehicles is required, but the number issued is not available.Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 768. MOTOR VEHICLES—SUMMARY OF SELECTED ITEMS: 1950 TO 1962
 [Excludes Alaska and Hawaii]

ITEM	1950	1955	1958	1959	1960	1961	1962
SALES, EXPORTS, IMPORTS, AND SCRAPPAGE¹							
Passenger car factory sales.....	1,000	6,666	7,920	4,258	5,591	6,675	5,543
4-door sedans.....	do	3,247	3,044	1,481	2,086	2,697	2,142
2-door sedans, coaches and coupes ²	do	2,794	1,691	705	895	1,094	1,124
"Hard-top" coupes and sedans.....	do	267	2,169	1,200	1,459	1,517	1,292
Convertibles (except "hard-top").....	do	208	240	194	255	305	300
Station wagons ³	do	142	759	673	913	1,059	826
Chassis.....	do	9	18	5	4	3	5
Truck and bus factory sales.....	do	1,337	1,249	877	1,137	1,194	1,134
Passenger cars (new), exported.....	do	153	254	126	117	145	140
Passenger cars (new), imported.....	do	21	57	431	668	444	279
Exports, value.....	\$1,000,000	794	1,367	1,226	1,279	1,411	1,300
Passenger cars (new).....	do	179	380	258	220	235	215
Trucks and busses (new).....	do	217	340	294	321	382	305
Rubber tires and tubes.....	do	47	82	79	77	77	61
Parts and accessories (incl. used vehicles).....	do	350	565	595	662	717	719
Imports of new passenger cars, value.....	do	21	69	487	735	513	307
Vehicles scrapped ⁴	1,000	3,234	4,392	4,177	5,211	4,927	n.a.
Passenger cars ⁴	do	2,598	3,773	3,639	4,524	4,344	n.a.
Trucks and buses ⁴	do	636	619	538	687	583	n.a.
TIRES AND PARTS							
Tires, passenger car: ⁵							
Production.....	1,000	78,598	97,223	83,625	102,686	105,274	103,388
Shipments.....	do	84,423	93,730	85,689	97,339	105,687	104,504
Original equipment.....	do	36,678	42,574	23,408	29,758	36,278	30,403
Replacement.....	do	47,103	50,189	61,564	66,705	68,475	73,204
Export.....	do	642	966	717	786	934	807
Inventory, year-end.....	do	3,050	15,963	17,828	23,586	23,593	22,788
Tires, truck and bus: ⁶							
Production.....	do	14,156	14,955	12,911	15,230	14,483	13,346
Shipments.....	do	15,164	14,769	13,235	15,076	13,911	13,743
Original equipment.....	do	4,671	4,800	3,375	4,418	3,925	3,679
Replacement.....	do	9,705	9,057	9,227	10,014	9,210	9,510
Export.....	do	788	912	633	644	776	554
Inventory, year-end.....	do	743	2,815	3,179	3,357	3,957	3,550
Replacement parts and accessories, domestic sales (taxable value) ⁷	\$1,000,000	1,882	1,806	2,037	2,250	2,313	2,358
Replacement auto battery shipments ⁸	1,000	24,442	25,828	25,270	27,495	26,329	28,311
SPECIAL MOTOR-VEHICLE TAXES⁹							
Special motor-vehicle taxes.....	\$1,000,000	4,339	7,212	8,420	9,543	10,457	10,531
Federal excise ¹⁰	do	1,479	2,736	3,182	3,760	4,397	4,242
State gross registration receipts ¹¹	do	948	1,483	1,702	1,826	1,924	1,962
State gasoline, net ¹¹	do	1,667	2,543	2,982	3,265	3,396	3,548
Special city and county ¹²	do	87	159	182	197	206	230
Bridge, tunnel, ferry, road tolls ¹²	do	157	202	422	495	533	550
TRAFFIC DEATHS							
Traffic deaths ¹³	number	34,763	38,426	36,981	37,910	38,200	38,091
Noncollision accidents.....	do	10,600	12,100	11,600	11,800	12,100	12,300
Collision accidents:							
With other motor vehicles.....	do	11,650	14,500	14,200	14,900	14,800	14,700
With pedestrians.....	do	9,000	8,200	7,650	7,850	7,750	7,650
With other vehicles or objects.....	do	3,490	3,605	3,505	3,358	3,556	3,460
Traffic death rates:							
Per 100,000 population.....	do	23.0	23.4	21.3	21.5	21.2	20.8
Per 10,000 motor vehicles.....	do	7.1	6.1	5.4	5.3	5.2	5.0
Per 100 million vehicle miles.....	do	7.6	6.4	5.6	5.4	5.3	5.2

n.a. Not available.

¹ Source: Exports and imports from Department of Commerce. ² Includes business coupes.³ Excludes station wagons on commercial vehicle chassis. ⁴ Preliminary. ⁵ Estimated.⁶ Source: The Rubber Manufacturers Association, Inc.⁷ Excludes government purchases. Estimates based on Federal Excise tax receipts.⁸ Source: Association of American Battery Manufacturers.⁹ Special taxes on motor-vehicle users. Excludes income and property taxes on motor vehicle, body, parts and tire factories; garages; dealers; repair shops; terminal and truck, including taxicab and bus, operating companies.¹⁰ Source: Department of the Treasury and Department of Commerce. Includes amounts collected on use of vehicles over 26,000 pounds as follows: 1958, \$33,102,000; 1959, \$35,967,000; 1960, \$44,539,000; 1961, \$59,624,000; 1962, \$90,000,000.¹¹ Source: Department of Commerce.¹² Estimated from data compiled by Department of Commerce. Special city and county includes parking meter revenues.¹³ Source: National Safety Council. Totals do not equal sum of various types because the estimates generally made only to nearest 10 deaths, and to nearest 50 deaths for certain types.Source: Automobile Manufacturers Association, Detroit, Michigan; *Automobile Facts and Figures*. Includes data compiled from sources cited in footnotes.

No. 769. MOTOR-VEHICLE TRAVEL, BY TYPE OF VEHICLE AND CLASS OF ROAD: 1940 TO 1961

In millions of vehicle-miles, except averages. Beginning 1959, estimates for total United States travel based on automatic traffic recorder data from 50 States and District of Columbia. Urban travel includes all travel in municipalities and most travel in urbanized areas. All other travel is classed as rural. See also *Historical Statistics, Colonial Times to 1957*, series Q 321-327]

ITEM	1940	1950	1955	1957	1958	1959	1960	1961
Total travel	302,188	458,246	603,434	647,004	664,653	700,478	718,845	737,535
CLASS OF ROAD								
Rural	152,195	239,998	336,153	350,305	357,584	376,688	387,260	397,902
Main rural roads	109,861	174,350	227,988	259,996	265,197	280,393	288,483	297,195
Local rural roads	42,334	65,648	108,165	90,309	92,387	96,295	98,777	100,707
Urban	149,993	218,248	267,281	296,699	307,069	323,790	331,585	339,633
TYPE OF VEHICLE								
Passenger vehicles	252,257	367,694	492,047	533,798	540,183	577,324	592,436	608,953
Rural	121,988	183,218	265,667	277,235	283,454	297,398	305,588	314,762
Urban	130,269	184,476	226,380	256,563	265,729	279,931	286,898	294,191
Passenger cars ¹	249,600	363,613	487,540	529,405	544,873	572,076	588,083	604,557
Rural	120,540	181,095	263,088	275,034	281,253	295,153	303,283	312,437
Urban	129,060	182,518	224,452	264,371	263,620	277,823	284,800	292,120
Buses	2,657	4,081	4,507	4,393	4,310	4,348	4,353	4,396
Rural	1,448	2,123	2,579	2,201	2,201	2,240	2,255	2,325
Urban	1,200	1,958	1,928	2,192	2,109	2,108	2,098	2,071
Trucks and combinations	49,931	90,552	111,387	113,206	115,470	123,154	126,409	128,582
Rural	30,207	56,780	70,480	73,070	74,130	79,295	81,722	83,140
Urban	19,724	33,772	40,901	40,136	41,340	43,859	44,087	45,442
AVERAGE MILES PER VEHICLE								
Passenger vehicles	9,129	9,078	9,400	9,425	9,524	9,559	9,474	9,492
Passenger cars ¹	9,080	9,020	9,359	9,391	9,494	9,529	9,446	9,465
Buses	18,580	20,910	17,658	16,640	15,963	16,408	16,004	15,661
Trucks and combinations	10,626	10,776	10,697	10,328	10,348	10,552	10,583	10,461

¹ Includes taxicabs and motorcycles.

Source: Department of Commerce, Bureau of Public Roads; releases.

No. 770. MOTOR VEHICLES—FACTORY SALES AND REGISTRATIONS: 1900 TO 1962

[Beginning 1959, registrations include Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 310-317]

YEAR	FACTORY SALES							REGISTRATIONS ⁴ (1,000)		
	Number (1,000)			Wholesale value ² (\$1,000,000)				Total	Passenger cars and taxis ⁶	Trucks and buses ⁶
	Total	Passenger cars	Trucks and buses ¹	Total	Passenger cars		Trucks and buses ¹			
					Total value	Average ³	Total value	Average ³		
1900	4	4	—	5	5	1,169	—	—	8	8
1910	187	181	6	225	215	1,189	10	1,610	469	458
1920	2,227	1,906	322	2,232	1,809	949	423	1,315	9,239	8,132
1930	3,363	2,787	575	2,035	1,644	590	391	679	26,750	23,035
1940	4,472	3,717	755	2,938	2,371	638	568	752	32,453	27,466
1945	725	70	656	1,239	57	823	1,182	1,803	31,035	25,793
1950	8,008	6,666	1,337	10,170	8,488	1,270	1,708	1,277	49,162	40,334
1955	9,169	7,920	1,249	14,474	12,453	1,572	2,021	1,618	62,694	52,130
1957	7,221	6,113	1,107	13,281	11,198	1,832	2,083	1,881	67,131	55,906
1958	5,135	4,258	877	9,749	8,010	1,881	1,730	1,973	68,299	56,871
1959	6,729	5,591	1,137	12,873	10,534	1,884	2,339	2,056	71,497	59,562
1960	7,369	6,675	1,194	14,515	12,164	1,822	2,350	1,968	73,941	61,724
1961	6,677	5,643	1,184	12,442	10,286	1,862	2,156	1,914	75,847	63,276
1962	8,178	6,933	1,240	15,600	13,075	1,886	2,525	2,036	78,631	65,644

¹ A substantial part of the trucks and buses reported comprises chassis without body; hence, excludes the value of bodies for these chassis. Includes military trucks.

² Beginning 1940, includes value of standard equipment.

³ Averages do not indicate price changes since total values may reflect changes in number of makes, models and/or body types from year to year.

⁴ Includes publicly owned vehicles.

⁵ Prior to 1930, buses included with passenger cars. ⁶ Preliminary estimate.

Source: Factory sales—Automobile Manufacturers Association, Detroit, Mich.; *Automobile Facts and Figures*. Registrations—Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 771. MOTOR-VEHICLE REGISTRATIONS (PASSENGER CARS, BUSES, AND TRUCKS)
—STATES: 1920 TO 1962

[In thousands. Includes publicly owned vehicles. For uniformity, figures have been adjusted to a calendar-year basis as registration years in States differ. Figures represent net numbers where possible, excluding registrations and nonresident registrations]

STATE	1920	1925	1930	1935	1940	1945	1950	1955	1960	1962
United States ¹	9,239	20,069	26,750	26,546	32,453	31,035	49,162	62,694	73,769	79,023
Alabama	75	196	281	249	346	366	686	1,041	1,282	1,371
Alaska	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	81	86	
Arizona	35	69	112	107	143	148	271	415	624	711
Arkansas	59	184	221	210	261	279	477	584	708	781
California	584	1,459	2,080	2,177	2,808	2,804	4,620	6,189	7,799	8,533
Colorado	129	241	311	288	358	348	504	737	924	1,012
Connecticut	119	252	334	371	498	510	716	921	1,107	1,199
Delaware	18	40	57	58	73	69	108	154	192	210
District of Columbia	34	105	159	174	165	114	195	197	206	211
Florida	74	288	331	362	503	526	985	1,616	2,367	2,593
Georgia	146	251	345	399	510	531	898	1,239	1,512	1,668
Hawaii	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	231	258	
Idaho	51	88	120	121	167	154	272	338	375	400
Illinois	569	1,267	1,646	1,536	1,939	1,734	2,651	3,268	3,776	3,977
Indiana	333	732	880	857	1,009	990	1,435	1,763	2,046	2,174
Iowa	437	662	783	705	803	701	1,072	1,195	1,325	1,402
Kansas	294	459	598	558	589	607	853	1,048	1,163	1,234
Kentucky	113	263	334	352	470	442	784	1,032	1,198	1,287
Louisiana	73	209	279	275	372	409	707	952	1,177	1,243
Maine	63	141	188	184	209	210	276	323	374	396
Maryland	103	238	324	349	449	462	685	938	1,155	1,246
Massachusetts	274	639	851	792	914	868	1,280	1,546	1,803	1,918
Michigan	413	993	1,338	1,254	1,571	1,475	2,433	3,114	3,306	3,455
Minnesota	324	571	736	733	879	757	1,169	1,365	1,502	1,692
Mississippi	68	178	239	190	264	268	484	637	723	784
Missouri	207	606	766	772	930	860	1,261	1,490	1,623	1,698
Montana	61	96	137	153	196	161	265	336	381	403
Nebraska	219	340	428	409	417	410	569	662	734	787
Nevada	10	22	30	36	46	47	77	124	175	220
New Hampshire	35	82	113	118	137	131	172	212	256	282
New Jersey	228	586	861	899	1,100	1,031	1,579	2,061	2,401	2,609
New Mexico	18	50	85	95	128	121	238	340	426	461
New York	676	1,638	2,330	2,359	2,775	2,360	3,735	4,643	5,067	5,371
North Carolina	141	344	462	475	607	620	1,056	1,437	1,720	1,856
North Dakota	91	145	184	185	184	182	276	309	345	358
Ohio	621	1,354	1,773	1,732	1,942	1,927	2,795	3,526	4,087	4,302
Oklahoma	213	427	555	508	584	512	831	1,026	1,184	1,275
Oregon	115	218	255	299	401	421	689	802	919	966
Pennsylvania	570	1,340	1,775	1,765	2,168	1,983	3,010	3,737	4,287	4,487
Rhode Island	50	102	137	150	189	180	251	308	341	350
South Carolina	94	170	221	240	343	341	579	782	879	937
South Dakota	120	169	206	181	198	181	200	325	354	380
Tennessee	102	247	374	360	461	467	858	1,102	1,307	1,429
Texas	428	987	1,378	1,399	1,716	1,605	2,968	3,869	4,457	4,839
Utah	43	74	115	108	143	157	247	336	417	403
Vermont	32	70	87	88	95	91	121	136	152	159
Virginia	115	257	381	393	509	556	918	1,243	1,426	1,563
Washington	174	332	452	463	573	626	924	1,164	1,377	1,471
West Virginia	81	219	269	254	308	290	482	552	601	631
Wisconsin	293	597	788	763	913	830	1,201	1,386	1,600	1,666
Wyoming	24	48	62	71	88	85	145	174	207	214

n.a. Not available.

¹ Beginning 1960, includes Alaska and Hawaii.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

Motor-Vehicle Registrations

569

No. 772. MOTOR-VEHICLE REGISTRATIONS—STATES: 1961 AND 1962
 [In thousands]

STATE	1961				1962				Motor- cycles (incl. offi- cial) ¹		
	Automobiles, trucks, and buses			Motor- cycles (incl. offi- cial) ¹	Automobiles, trucks, and buses						
	Private and com- mercial		Publicly owned vehicles, Federal, State, county, etc. ¹		Private and com- mercial		Publicly owned vehicles, Federal, State, county, etc. ¹				
	Total	Automo- biles (incl. taxi- cabs)	Trucks and buses		Total	Automo- biles (incl. taxi- cabs)	Trucks and buses				
United States	75,827	62,996	11,804	1,026.1	595.6	79,023	65,649	12,298	1,076.0	660.4	
Alabama	1,311	1,062	229	19.2	11.4	1,371	1,115	236	19.8	11.2	
Alaska	86	63	21	2.5	1.0	86	56	25	3.7	1.0	
Arizona	664	516	135	12.7	9.8	711	552	145	13.7	11.6	
Arkansas	731	515	206	9.8	5.3	781	552	219	10.0	6.0	
California	8,093	6,859	1,123	110.3	87.4	8,533	7,226	1,190	116.9	106.3	
Colorado	971	746	208	17.4	11.6	1,012	775	220	17.0	12.9	
Connecticut	1,144	1,007	125	11.2	4.1	1,199	1,058	129	11.5	5.8	
Delaware	199	146	51	2.3	1.0	210	152	55	2.2	1.0	
Dist. of Col.	207	182	19	2 6.4	0.9	211	186	18	6.9	1.0	
Florida	2,448	2,116	301	31.0	31.4	2,593	2,249	312	31.9	34.0	
Georgia	1,559	1,258	281	20.7	10.6	1,668	1,351	206	21.9	10.5	
Hawaii	245	210	30	4.7	4.1	258	223	30	4.8	4.2	
Idaho	386	262	115	8.8	4.1	400	270	120	9.7	5.6	
Illinois	3,858	3,377	444	36.9	25.6	3,977	3,483	455	38.4	27.1	
Indiana	2,090	1,714	360	17.3	19.2	2,174	1,777	378	19.3	21.9	
Iowa	1,353	1,086	250	17.0	11.7	1,402	1,124	260	17.8	12.6	
Kansas	1,190	892	280	18.8	11.5	1,234	924	290	19.4	12.7	
Kentucky	1,235	974	245	15.7	7.0	1,287	1,018	254	16.0	7.4	
Louisiana	1,190	947	227	15.4	7.7	1,248	992	235	16.5	8.0	
Maine	384	308	71	5.2	1.9	396	317	74	5.5	1.9	
Maryland	1,184	1,030	144	10.1	4.5	1,246	1,087	148	10.8	4.7	
Massachusetts	1,850	1,652	182	25.1	12.5	1,918	1,703	189	26.2	13.7	
Michigan	3,354	2,928	300	36.9	28.2	3,455	3,015	401	39.2	29.6	
Minnesota	1,612	1,317	276	18.9	13.1	1,692	1,383	287	20.9	14.9	
Mississippi	746	547	186	13.9	3.9	784	578	192	13.9	4.0	
Missouri	1,642	1,287	337	18.0	10.4	1,698	1,330	350	18.2	12.6	
Montana	388	265	116	7.2	3.2	403	274	122	7.5	4.9	
Nebraska	756	569	178	9.6	5.5	787	588	189	9.9	5.9	
Nevada	187	140	43	4.4	3.7	220	165	48	6.6	4.4	
New Hampshire	269	221	41	7.5	2.2	282	229	44	7.8	2.4	
New Jersey	2,534	2,241	267	25.6	12.3	2,609	2,305	275	28.2	13.5	
New Mexico	443	324	111	8.9	7.5	461	339	112	9.5	6.6	
New York	5,200	4,608	516	75.9	15.8	5,371	4,761	530	80.2	16.9	
North Carolina	1,788	1,427	319	42.0	6.3	1,856	1,471	340	45.8	6.8	
North Dakota	349	233	110	5.4	1.7	358	240	113	5.7	2.0	
Ohio	4,167	3,697	428	41.7	36.4	4,302	3,821	437	43.4	38.0	
Oklahoma	1,222	901	302	17.9	13.2	1,275	939	318	18.6	13.8	
Oregon	942	758	166	18.3	8.3	966	777	170	18.5	13.2	
Pennsylvania	4,370	3,791	534	44.8	29.7	4,487	3,901	539	47.2	32.0	
Rhode Island	348	308	36	3.4	2.0	359	318	38	3.5	2.5	
South Carolina	899	734	147	18.5	4.8	937	767	152	18.3	4.7	
South Dakota	365	261	97	6.1	2.8	380	272	102	6.7	3.0	
Tennessee	1,363	1,115	227	20.9	11.5	1,429	1,170	237	21.6	12.9	
Texas	4,562	3,600	906	55.7	46.3	4,839	3,823	958	57.5	46.7	
Utah	436	343	85	8.2	4.5	463	363	92	8.4	6.3	
Vermont	155	124	29	2.5	1.3	159	126	30	2.5	1.5	
Virginia	1,482	1,239	219	24.3	6.5	1,563	1,309	227	26.9	6.7	
Washington	1,406	1,126	251	28.8	9.6	1,471	1,178	263	30.4	12.8	
West Virginia	606	479	115	11.7	3.9	631	502	118	10.4	4.0	
Wisconsin	1,636	1,351	260	25.4	18.0	1,666	1,374	269	23.4	13.6	
Wyoming	210	141	64	5.0	2.2	214	143	66	5.3	2.7	

¹ Excludes vehicles owned by military services.

² Includes 2,502 automobiles of the diplomatic corps for 1961, and 2,642 for 1962.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 773. AUTOMOBILE OWNERSHIP, AGE, AND FINANCING: 1950 TO 1962
 [Excludes Alaska and Hawaii. For definitions of families and spending units, see text, p. 3, and headnote, table 448, respectively]

ITEM	1950	1955	1958	1959	1960	1961	1962
Total number of families in U.S. ¹ millions	45.7	49.3	52.0	52.6	53.4	54.2	54.9
Total owning automobiles..... percent	60	71	74	74	77	76	74
Total number of spending units in U.S. ¹ millions	52.6	54.3	56.9	56.8	56.8	58.0	58.8
Total owning automobiles ² percent	55	67	70	71	74	74	72
Automobiles owned, by age: ³							
Less than 2 years old..... do	17	12	12	10	14	13	12
2 and 3 years old..... do	19	22	25	23	20	17	21
4, 5, 6, and 7 years old..... do	6	43	37	38	41	42	38
8 years old and over..... do	58	23	26	28	25	28	29
Total automobile purchasers ² millions	12.8	15.5	12.6	13.5	15.4	15.0	
New car..... do	5.3	6.1	3.9	5.0	5.3	4.6	
Average price paid..... dollars	2,220	2,940	2,990	3,150	3,030	2,840	
Used car..... millions	7.5	9.4	8.7	8.5	10.1	10.4	
Average price paid..... dollars	730	780	850	1,020	820	810	
Method of financing by purchasers: ²							
All passenger-car buyers ⁴ percent	100	100	100	100	100	100	
Full cash (including trade-in allowance)..... do	47	38	43	38	47	43	n.a.
Installment credit and other borrowing..... do	52	60	56	61	52	56	
New-passenger-car buyers ⁴ do	100	100	100	100	100	100	
Full cash (including trade-in allowance)..... do	54	39	36	33	39	38	
Installment credit and other borrowing..... do	46	60	63	66	61	62	
Used-passenger-car buyers ⁴ do	100	100	100	100	100	100	
Full cash (including trade-in allowance)..... do	41	37	45	41	52	45	
Installment credit and other borrowing..... do	57	60	54	57	47	53	

n.a. Not available.

¹ At time of survey, early in year.

² Covers spending units buying cars during year and still owning them at survey time (January–February of following year).

³ Age is determined by subtracting model year from year of survey.

⁴ Includes buyers from whom method of financing was not ascertained. Beginning 1958, such buyers were assigned to either the cash or credit group; prior to that, the data shown for cash and credit buyers reflect only those buyers who reported method of financing.

Source: The University of Michigan, Survey Research Center; *Survey of Consumer Finances*. Prior to 1960, sponsored by Board of Governors of Federal Reserve System and published periodically in *Federal Reserve Bulletin*.

No. 774. AUTOMOBILE INSURANCE—PREMIUMS WRITTEN AND LOSSES PAID, BY TYPE: 1950 TO 1961

[In millions of dollars. Beginning 1958, includes Alaska and Hawaii. 1950, net basis; 1955 to 1958, direct writing basis, and beginning 1959, direct premiums earned and direct losses incurred]

YEAR	TOTAL INSURANCE			AUTO. LIABILITY, BODILY INJURY			AUTO. LIABILITY, PROPERTY DAMAGE ¹			PHYSICAL DAMAGE ²		
	Premi-ums written	Losses paid	Percent losses paid of premi-ums written	Premi-ums written	Losses paid	Percent losses paid of premi-ums written	Premi-ums written	Losses paid	Percent losses paid of premi-ums written	Premi-ums written	Losses paid	Percent losses paid of premi-ums written
1950....	2,625	1,069	40.7	931	396	42.5	482	231	47.9	1,212	442	36.5
1955....	4,644	2,122	45.7	1,735	820	47.3	896	415	46.3	2,013	887	43.6
1958....	5,404	2,846	52.7	2,432	1,280	52.6	1,087	572	52.6	1,885	994	52.7
1959....	6,060	3,445	56.8	2,506	1,615	62.2	1,185	655	55.3	2,279	1,175	51.6
1960....	6,480	3,667	56.5	2,842	1,698	59.7	1,259	696	55.3	2,388	1,273	53.3
1961....	6,668	3,723	55.8	2,977	1,744	58.6	1,285	705	54.9	2,406	1,274	53.0

¹ Covers real property against damage by autos.

² Covers auto fire, theft, collision, and comprehensive.

Source: The Spectator, Philadelphia, Pa.; *Insurance Yearbook*, Fire and Casualty Volume; and beginning 1955, Insurance by States Volume.

No. 775. SPEED OF MOTOR VEHICLES: 1945 TO 1962

[Excludes Alaska and Hawaii. Based on actual speed of each vehicle recorded on tangent sections of main rural highways during off-peak hours]

ITEM	1945 ¹	1950	1954	1955	1956	1957	1958	1959	1960	1961	1962
Number of vehicles recorded..... 1,000....	96	280	236	305	381	344	515	396	450	574	520
Average speed, all vehicles..... m. p. h.	44.0	47.6	49.7	50.7	50.5	51.4	51.7	52.0	52.6	53.6	53.8
Passenger cars..... do	45.0	48.7	51.1	52.1	51.8	52.6	52.8	53.3	53.8	53.7	55.1
Trucks..... do	39.8	43.0	45.2	45.8	46.2	47.0	47.3	47.8	48.2	48.2	49.5
Buses..... do	45.5	49.8	51.8	52.6	52.3	52.6	53.6	53.5	55.5	55.3	56.8
Vehicles exceeding.....											
40 m. p. h..... percent	64	77	86	87	87	89	90	90	92	92	94
45 m. p. h..... do	42	58	69	73	72	75	77	80	80	80	84
50 m. p. h..... do	24	37	46	51	49	52	55	56	58	60	64
55 m. p. h..... do	11	20	26	31	30	33	33	36	37	38	43
60 m. p. h..... do	5	8	12	15	14	15	15	16	16	18	21

¹ August 15 to December 31.

Source: Department of Commerce, Bureau of Public Roads.

Motor-Vehicle Accidents

571

No. 776. MOTOR-VEHICLE ACCIDENT DEATHS, BY AGE AND SEX: 1961

[Includes Alaska and Hawaii. Refers only to events occurring within U.S.]

AGE	Both	Male	Female	AGE	Both	Male	Female
	sexes						
All ages.....	38,091	27,983	10,108	25 to 34 years.....	5,472	4,371	1,101
Under 5 years.....	1,891	1,080	811	35 to 44 years.....	4,740	3,561	1,179
5 to 9 years.....	1,536	1,002	534	45 to 54 years.....	4,393	3,181	1,212
10 to 14 years.....	1,266	885	381	55 to 64 years.....	3,874	2,660	1,214
15 to 19 years.....	4,399	3,380	1,039	65 years and over.....	5,813	3,949	1,884
20 to 24 years.....	4,689	3,917	772	Not stated.....	18	17	1

No. 777. MOTOR-VEHICLE ACCIDENT DEATHS, BY PLACE OF DEATH AND PLACE OF RESIDENCE: 1950 TO 1961

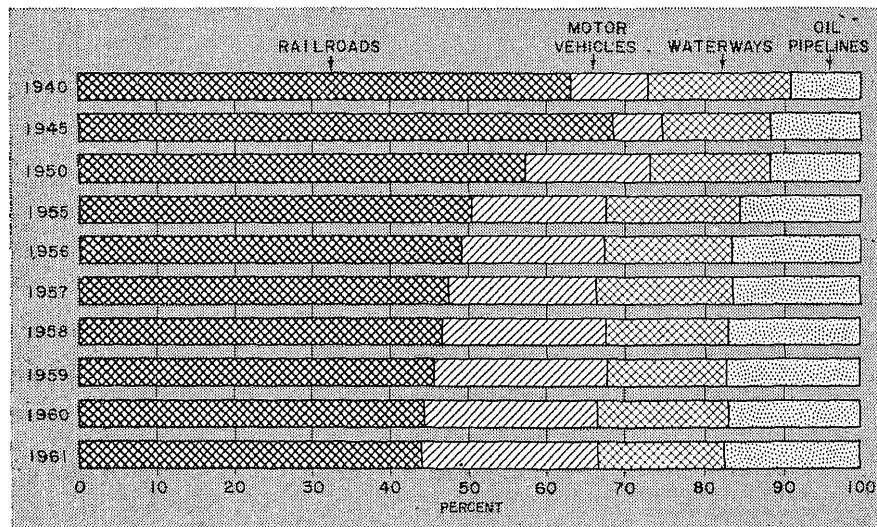
STATE	BY PLACE OF DEATH						BY PLACE OF RESIDENCE					
	1950	1955	1958	1959	1960	1961	1950	1955	1958	1959	1960	1961
United States ¹	34,763	38,426	36,981	37,910	38,137	38,091	34,763	38,426	36,981	37,910	38,137	38,091
Ala.....	859	859	878	870	926	938	855	804	902	900	941	956
Alaska.....	22	31	33	34	43	26	n.a.	n.a.	n.a.	32	46	29
Ariz.....	333	384	529	518	507	518	278	335	459	440	418	439
Ark.....	365	447	445	461	449	471	383	467	445	491	466	488
Calif.....	3,082	3,524	3,594	3,712	3,837	3,941	3,171	3,609	3,696	3,823	3,936	4,057
Colo.....	415	455	414	408	443	404	408	406	401	410	450	473
Conn.....	287	383	266	252	303	290	291	351	260	289	293	306
Del.....	84	112	89	90	91	70	80	104	94	79	84	65
Dist. of Col.....	102	99	83	81	82	74	134	119	100	93	95	93
Fla.....	882	1,048	1,189	1,177	1,303	1,246	842	977	1,159	1,124	1,241	1,234
Ga.....	928	1,122	1,021	1,031	1,079	1,038	906	1,094	979	987	1,030	1,005
Hawaii.....	74	64	73	89	111	93	n.a.	n.a.	n.a.	n.a.	110	89
Idaho.....	243	184	290	232	231	260	226	181	263	219	209	247
Ill.....	1,953	1,877	1,797	1,660	1,564	1,736	2,042	1,994	1,926	1,724	1,670	1,843
Ind.....	1,136	1,189	1,099	1,168	1,164	1,128	1,087	1,148	1,077	1,109	1,183	1,117
Iowa.....	620	613	630	716	644	680	634	636	650	702	639	691
Kansas.....	546	613	582	598	535	572	529	587	570	570	519	549
Ky.....	753	907	779	764	808	758	722	862	735	755	776	706
La.....	585	703	841	810	849	754	551	677	810	802	828	726
Maine.....	161	177	216	144	181	183	155	176	211	149	177	183
Md.....	480	500	517	525	527	455	442	498	485	546	522	449
Mass.....	492	621	579	598	621	604	544	675	617	620	625	646
Mich.....	1,627	2,036	1,417	1,480	1,634	1,618	1,692	2,145	1,467	1,575	1,702	1,695
Minn.....	558	613	734	688	750	761	587	632	752	737	773	764
Miss.....	525	502	574	597	669	597	519	544	548	582	621	581
Mo.....	902	1,079	1,013	1,014	1,078	991	942	1,084	964	1,010	1,057	955
Mont.....	209	244	208	255	231	287	191	239	203	248	220	269
Nebr.....	317	331	359	343	310	335	305	337	369	351	295	339
Nev.....	122	186	161	200	182	213	81	123	117	135	148	118
N. H.....	103	110	101	120	103	105	96	103	95	112	107	92
N. J.....	715	815	773	784	764	798	646	767	755	764	763	797
N. Mex.....	340	383	431	482	427	371	263	295	346	382	376	340
N. Y.....	1,961	2,183	2,114	2,269	2,024	2,246	2,098	2,310	2,260	2,334	2,158	2,324
N. C.....	1,153	1,222	1,150	1,261	1,281	1,316	1,113	1,217	1,129	1,241	1,200	1,317
N. Dak.....	105	153	169	175	166	158	111	171	175	167	170	101
Ohio.....	1,850	2,089	1,819	1,898	1,933	1,631	1,892	2,137	1,855	1,993	1,979	1,674
Oklahoma.....	504	569	606	630	686	718	510	608	686	640	684	736
Oreg.....	461	434	460	506	469	507	465	434	436	489	477	520
Pa.....	1,656	1,872	1,746	1,794	1,635	1,559	1,744	1,948	1,798	1,846	1,701	1,656
R. I.....	87	94	74	90	60	71	89	98	82	88	73	68
S. C.....	627	696	590	673	690	707	633	679	573	648	684	679
S. Dak.....	198	200	236	227	241	225	196	200	221	223	236	225
Tenn.....	801	968	799	872	899	872	778	913	779	837	859	795
Tex.....	2,499	2,602	2,424	2,615	2,316	2,365	2,498	2,599	2,469	2,557	2,372	2,403
Utah.....	199	211	206	224	269	243	202	192	200	230	253	241
Vt.....	69	87	80	92	104	94	82	82	83	83	91	90
Va.....	929	909	884	875	782	887	857	830	774	806	753	803
Wash.....	534	514	610	576	597	614	548	545	667	620	622	646
W. Va.....	400	398	388	412	371	380	422	410	405	390	380	365
Wis.....	857	954	818	841	926	933	806	910	815	824	917	932
Wyo.....	149	145	149	173	182	163	117	114	110	133	139	125

n.a. Not available.

¹ Beginning 1959, includes Alaska, and 1960, Hawaii.

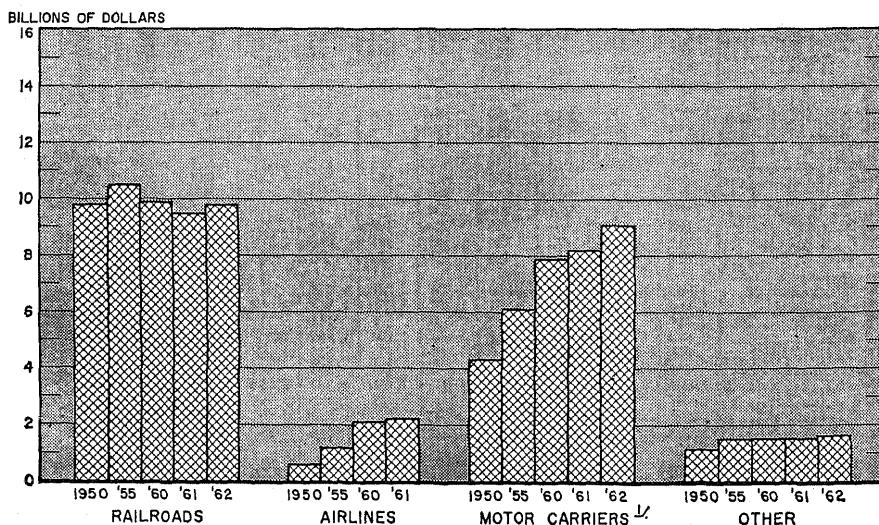
Source of tables 776 and 777: Department of Health, Education, and Welfare, Public Health Service; annual report, *Vital Statistics of the United States*.

FIG. XXXVI. PERCENT DISTRIBUTION OF TON-MILES OF DOMESTIC INTERCITY FREIGHT TRAFFIC, BY TYPE OF TRANSPORTATION: 1940 TO 1961
 [Airways not shown separately—less than 1 percent. See table 778]



Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from Interstate Commerce Commission.

FIG. XXXVII. OPERATING REVENUES FOR SELECTED TRANSPORT GROUPS: 1950 TO 1962
 [See table 780]



¹ Property and passenger.

Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from Interstate Commerce Commission and Federal Aviation Agency.

Section 22

Transportation, Land and Air

This section presents statistics concerning the systems of mass transport of persons and goods by land and air. The modes of transport included are railroad, trucking, bus and streetcar, pipeline, and civil aviation.

The principal sources of these data are the Interstate Commerce Commission's *Annual Report* and its annual *Transport Statistics in the United States*, Part 1, which contains data on railroads; and the Federal Aviation Agency's annual *FAA Statistical Handbook of Aviation*. Other important sources published by the Interstate Commerce Commission include the quarterly and annual *Statistics of Class I Motor Carriers* (issued as Part 7 of *Transport Statistics*); the annual *Statistics of Oil Pipe-Line Companies* (issued as Part 6 of *Transport Statistics*); the annual *Accident Bulletin*; and, for historical data on railroads, *Statistics of Railways in the United States*, published annually from 1887 through 1953. Nongovernmental sources of data include *Cars of Revenue Freight Loaded*, published weekly and annually by the Association of American Railroads; the *Transit Fact Book*, relating to street railways and motor buses, published annually by the American Transit Association; and *Air Transport Facts and Figures*, published annually by the Air Transport Association of America.

Railroads.—The total railroad mileage of the United States comprises companies reporting to the Interstate Commerce Commission, grouped as follows: (1) Regular interstate carriers (and their nonoperating subsidiaries); (2) switching and terminal railroads; and (3) private railroads (identified by the Commission as "circular" because they report on brief circulars, or as "unofficial" when their reports are received too late for tabulation). Except for certain mileage data, circular and unofficial companies are not included in the statistics. Switching and terminal roads, formerly included with operating railroads, are now separated, and data for them do not appear in most of the tables.

Nonoperating subsidiaries comprise proprietary companies, which are covered by the reports of operating carriers, and lessor companies, which have no traffic and whose reports appear only in statistics of capitalization, dividends, and investment.

Operating railroads are classified on the basis of operating revenues. Prior to 1956, the classification was as follows: Class I, those having more than \$1,000,000 gross annual operating revenue; class II, from \$100,000 to \$1,000,000; and class III, less than \$100,000. Since 1956, the following classification has been in effect: Class I, \$3,000,000 or more; and class II, under \$3,000,000. Class III has been eliminated.

Motor carriers.—Statistics of class I for-hire carriers are compiled by the Interstate Commerce Commission from annual and quarterly reports submitted to it by these carriers. Prior to 1950, class I motor carriers were those with \$100,000 or more of gross annual operating revenue. Beginning with 1950, the class I minimum became \$200,000. Beginning with 1957, the class I minimum for motor carriers of property was increased to \$1,000,000; however, the minimum for class I motor carriers of passengers remained at \$200,000.

Civil aviation.—Federal promotion and regulation of civil aviation are carried out by two bodies—the Federal Aviation Agency and the Civil Aeronautics Board. The Board issues certificates permitting persons to engage in air transportation as a business, fixes air mail rates which they may charge, and may establish maximum and minimum rates for transportation of passengers and goods. It also has the duty of investigating accidents in air transportation.

The principal activities of the Federal Aviation Agency are: Controlling the use of navigable airspace; prescribing regulations dealing with the competency of airmen, airworthiness of aircraft, and air traffic control; operation of air route traffic control centers, airport traffic control towers, and flight service stations; the design, construction, maintenance, and inspection of navigation, traffic control, and communications equipment for the airways; and promotion of air safety.

These agencies publish annual operational data on the use of airway facilities; data related to the location of airmen, aircraft, and airports; the activity volume in the field of non-aircarrier (general aviation) flying; and aircraft production and registration data by type of equipment.

Alaska and Hawaii.—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

No. 778. VOLUME OF DOMESTIC INTERCITY FREIGHT TRAFFIC, BY TYPE OF TRANSPORTATION: 1940 TO 1961

[In millions of ton-miles, except percent. Excludes Alaska and Hawaii, except as noted. A ton-mile is the movement of 1 ton (2,000 pounds) of freight for the distance of 1 mile. Comprises public and private traffic, both revenue and nonrevenue. See also *Historical Statistics, Colonial Times to 1957*, series Q 1-11]

YEAR	Total traffic, volume	RAILROADS ¹		MOTOR VEHICLES		INLAND WATERWAYS ²		OIL PIPELINES		AIRWAYS ³	
		Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total
1940.....	651,204	411,813	63.24	62,043	9.53	118,057	18.13	50,277	9.10	14	0.002
1945.....	1,072,490	736,184	68.64	66,948	6.24	142,737	13.31	126,530	11.80	91	0.008
1950.....	1,004,160	628,463	57.44	172,860	15.80	163,344	14.93	129,175	11.81	318	0.029
1951.....	1,209,099	686,377	56.77	188,012	15.55	182,216	15.07	152,115	12.58	379	0.031
1952.....	1,172,167	651,276	55.56	194,007	16.60	168,367	14.36	157,502	13.44	415	0.035
1953.....	1,282,477	642,578	52.14	217,163	17.62	202,439	16.43	169,884	13.78	413	0.034
1954.....	1,144,033	577,529	50.48	213,225	18.64	173,679	15.18	179,203	15.66	397	0.035
1955.....	1,298,060	654,573	50.43	223,254	17.20	216,508	16.68	203,244	15.66	481	0.037
1956.....	1,376,320	676,974	49.19	248,846	18.08	219,978	15.98	220,950	16.71	563	0.041
1957.....	1,354,012	644,746	47.82	254,174	18.77	231,792	17.12	222,728	16.45	572	0.042
1958.....	1,231,184	574,756	46.68	255,544	20.76	189,016	15.35	211,289	17.16	570	0.047
1959.....	1,312,155	590,347	45.68	288,519	21.99	196,559	14.98	226,991	17.30	5730	0.056
1960.....	1,342,174	594,855	44.32	297,662	22.18	220,253	16.41	228,626	17.03	5778	0.057
1961.....	1,332,830	584,549	43.86	304,508	22.85	209,706	15.73	233,172	17.40	5895	0.067

¹ Includes electric railways, express, and mail.

² Includes Great Lakes. Includes Alaska for all years and Hawaii beginning 1959.

³ Domestic revenue service only. Includes express, mail, and excess baggage.

⁴ Part of this increase resulted from coverage of waterways previously existing but not covered.

⁵ Includes Alaska and Hawaii.

Source: Interstate Commerce Commission; *Annual Report*, and Statement No. 6103, *Intercity Ton-Miles, 1959-1960*, April 1961.

Intercity Passenger—Transport Revenues

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No. 779. VOLUME OF DOMESTIC INTERCITY PASSENGER TRAFFIC, BY TYPE OF TRANSPORTATION: 1950 TO 1961

[In millions of passenger-miles, except percent. Excludes Alaska and Hawaii, except as noted. A passenger-mile is the movement of 1 passenger for the distance of 1 mile. Comprises public and private traffic, both revenue and nonrevenue]

YEAR	Total traffic, volume	RAILROADS ¹		COMMERCIAL MOTOR CARRIERS		PRIVATE AUTOMOBILES		INLAND WATERWAYS ²		AIRWAYS ³	
		Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total
1950.....	473,022	32,481	6.87	26,436	5.59	402,843	85.16	1,190	0.25	10,072	2.13
1952.....	575,345	34,710	6.03	28,704	4.99	495,547	86.13	1,396	0.24	14,988	2.61
1953.....	608,709	32,261	5.30	28,397	4.66	529,194	86.93	1,487	0.24	17,430	2.80
1954.....	625,113	29,467	4.71	25,614	4.10	548,763	87.79	1,701	0.27	19,568	3.13
1955.....	684,510	28,695	4.32	26,519	3.84	585,817	88.16	1,738	0.26	22,741	3.42
1956.....	690,696	28,610	4.11	25,189	3.02	615,514	88.35	1,860	0.27	25,523	3.66
1957.....	694,018	26,251	3.78	21,455	3.09	616,254	88.80	1,030	0.30	28,123	4.05
1958.....	704,452	23,605	3.33	20,756	2.98	629,496	89.38	2,073	0.29	28,522	4.05
1959.....	736,704	22,373	3.04	20,364	2.76	659,435	89.56	2,026	0.27	432,566	4.42
1960.....	760,733	21,574	2.84	19,896	2.62	682,617	89.73	2,688	0.35	433,958	4.40
1961.....	769,123	20,527	2.67	19,703	2.56	692,000	89.97	2,251	0.29	434,642	4.50

¹ Includes electric railways.

² Includes Great Lakes.

³ Includes domestic commercial revenue service and private pleasure and business flying.

⁴ Includes Alaska and Hawaii.

Source: Interstate Commerce Commission; *Annual Report*, and *Transport Economics*, August 1962.

No. 780. OPERATING REVENUES, BY TRANSPORT AGENCY: 1940 TO 1962

[Excludes Alaska and Hawaii, except as noted]

TRANSPORT AGENCY	1940	1945	1950	1955	1960	1961	1962 ¹
REVENUES (\$1,000,000)							
Pullman Company.....	60	148	104	95	56	52	50
Electric railways ²	53	87	79	60	23	22	21
Railway Express ³	120	284	223	241	248	257	273
Railroads ⁴	4,450	9,136	9,820	10,495	9,899	9,540	9,793
Waterlines ⁵	113	173	330	452	427	389	401
Pipelines (oil).....	226	304	442	678	770	787	812
Domestic scheduled air carriers ⁶	77	215	558	1,215	2,129	2,245	n.a.
Motor carriers of property.....	898	1,840	3,737	5,535	7,214	7,463	8,351
Motor carriers of passengers ⁷	176	652	539	552	667	690	738
INDEX (1939=100)							
Railroads ⁴	107.7	220.6	237.2	253.5	230.1	230.4	n.a.
Pipelines (oil).....	106.3	143.2	207.8	318.9	362.5	370.2	n.a.
Domestic scheduled air carriers ⁶	137.6	384.1	997.9	2,151.8	3,801.8	4,011.8	n.a.
Motor carriers of property.....	109.4	177.5	471.7	698.7	910.6	942.0	n.a.
Motor carriers of passengers.....	103.6	327.3	318.6	331.2	394.4	407.7	n.a.

¹ n.a. Not available.

² 12 months ending June 30.

² Since Dec. 31, 1961, 2 electric railways have been reclassified as class II line-haul railways. Two have been abandoned, and 2 have been purchased, 1 by a line-haul railway and the other by an electric railway in the same period. The result is an overstatement of the electric railway decrease and slight understatement of the railroad decrease.

³ After deducting payments to others for express privileges.

⁴ Includes line-haul and switching and terminal companies. Includes Alaskan and Hawaiian companies beginning 1960.

⁵ Includes only revenues from domestic traffic of carriers subject to the jurisdiction of the Interstate Commerce Commission.

⁶ Source: Federal Aviation Agency; *F.A.A. Statistical Handbook of Aviation*. Includes Hawaii and, beginning 1955, Alaska.

⁷ Excludes motor-carrier revenues of electric railways, included under electric railways.

Source: Interstate Commerce Commission; *Annual Report*, *Statistics of Class I, II, and III Motor Carriers 1939-1956* (Statement No. 589), and *Transport Economics*, except as noted.

No. 781. RAILROADS—SUMMARY STATISTICS: 1930 TO 1961

[As of December 31. Beginning 1960, includes Alaska and Hawaii. Includes intercorporate duplications. See also *Historical Statistics, Colonial Times to 1957*, series Q 44-124]

ITEM	1930	1940	1950	1957	1958	1959	1960	1961
Operating companies ¹ —number—	775	574	471	415	412	411	407	307
Road owned, first track ² —miles—	249,052	233,670	223,779	219,067	218,399	217,565	217,552	216,445
Miles operated: ³								
Total, reporting railroads ⁴ —miles—	429,883	405,975	390,380	386,978	385,264	383,912	381,745	379,415
Road, first track ⁴ —do—	260,440	245,740	236,857	232,177	231,494	230,930	230,169	229,369
Other main tracks—do—	42,742	41,373	40,456	37,123	36,448	35,746	34,800	33,853
Yardtrack and sidings—do—	126,701	118,862	119,067	117,678	117,322	117,236	116,776	116,193
Miles of road operated by receivers or trustees—	9,486	75,270	12,223	1,022	1,040	1,097	1,260	2,365
Equipment:								
Locomotives in service—number—	60,189	44,333	42,951	32,391	31,616	31,530	31,178	30,880
Average tractive effort ⁵ —pounds—	45,225	50,905	57,075	61,515	61,312	61,408	61,314	61,068
Cars in service:								
Passenger-train—number—	53,554	38,308	37,359	29,564	28,999	27,419	25,746	24,433
Freight-train ⁷ —thousands—	2,322	1,684	1,746	1,778	1,756	1,708	1,690	1,635
Average capacity ⁶ —tons—	46.9	50.0	52.6	54.5	54.8	55.0	55.4	55.7
Capital and property investment: ⁸								
Road and equipment, book value ⁹								
mil. dol.	26,051	25,646	30,174	34,615	34,934	35,158	35,513	35,542
Depreciation reserve ¹⁰ —do—	2,361	3,095	6,629	7,801	8,043	8,296	8,532	8,793
Capital outstanding ¹¹ —do—	24,331	23,371	20,399	18,695	18,241	18,019	17,854	16,830
Net capitalization—do—	19,066	17,630	15,618	14,682	14,529	14,287	14,150	13,184
Stock paying dividends—do—	7,702	3,741	6,769	6,465	5,200	5,751	5,617	4,302
Dividends declared—do—	603	217	349	466	445	432	412	385
Interest accrued on funded debt								
mil. dol.	589	547	367	382	303	300	387	383
Income and expenses:								
Operating revenues—do—	5,356	4,355	9,587	10,625	9,686	9,955	9,042	9,310
Operating expenses—do—	3,904	3,132	7,135	8,322	7,631	7,797	7,657	7,302
Tax accruals—do—	354	403	1,212	1,091	977	1,070	1,020	1,012
Operating income—do—	1,008	820	1,240	1,213	1,078	1,088	964	936
Net income ⁸ —do—	578	243	855	765	630	608	473	410
Passenger service:								
Passenger revenue—do—	731	418	815	736	676	652	641	626
Passengers carried—millions—	708	456	488	413	382	354	327	318
Passenger-miles ¹² —do—	26,876	23,816	31,790	25,914	23,295	22,075	21,284	20,308
Commutation—do—	6,669	3,907	4,900	4,901	4,776	4,549	4,197	4,132
Coach—do—	12,485	17,443	15,893	14,225	13,704	13,422	12,893	
Parlor and sleeping car—do—	7,288	9,338	5,185	4,249	3,708	3,643	3,202	
Revenue per passenger-mile—cents—	2.72	1.76	2.56	2.84	2.90	2.96	3.01	3.08
Average journey per passenger								
miles—	37.96	52.22	55.14	62.80	61.04	62.42	65.05	63.79
Freight service:								
Freight revenue—mil. dol.—	4,145	3,584	7,934	9,064	8,193	8,442	8,152	7,859
Revenue-tons originated—millions—	1,220	1,069	1,421	1,449	1,247	1,283	1,301	1,253
Tons carried one mile—do—	385,815	375,369	591,550	621,907	554,534	578,637	575,360	566,295
Revenue ton-miles per mile of road								
thousands—	1,481	1,526	2,497	2,677	2,304	2,506	2,497	2,461
Revenue per ton-mile—cents—	1.074	0.955	1.341	1.457	1.477	1.450	1.417	1.388
Haul per ton—miles—	316.21	351.13	416.32	429.20	444.55	447.66	442.14	452.00
Number of employees, average								
thousands—	1,517	1,046	1,287	999	853	828	793	727
Compensation of employees								
mil. dol.—	2,589	1,991	4,645	5,422	4,901	5,049	4,057	4,084
Accidents:								
Persons killed—number—	5,665	4,740	3,486	2,393	2,311	2,094	2,248	2,127
Persons injured—do—	49,443	29,606	33,267	18,688	19,343	19,900	19,577	27,118

¹ Line-haul operating.

² Excludes all duplications; also excludes some mileage in Canada.

³ Includes some duplication under trackage rights and some mileage in Canada.

⁴ Excludes circular and unofficial.

⁵ 1930-1955 average for steam locomotives only; beginning 1957, all locomotives.

⁶ Covers class I railroads, excluding switch and terminal companies. ⁷ Excludes caboose cars. ⁸ Includes lessors.

⁹ Increase in investment over a period of years cannot be obtained accurately by subtraction of 1 year's investment from that of another owing to reorganization, sale or abandonment, reclassification, etc. Includes lessor companies and proprietary companies except those which are part of systems filing consolidated annual reports.

¹⁰ For 1950 and later years, includes amortization of defense projects and proprietary companies.

¹¹ Comprises actually outstanding, nominally issued, and nominally outstanding securities, and equipment obligations. ¹² Class I railroads.

Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1, and *Accident Bulletin*.

Railroads

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No. 782. RAILROAD COMPANIES, BY CLASS: 1950 TO 1961

[Beginning 1960, includes Alaska and Hawaii. See text, p. 573, for explanation of class limits]

CLASS OF COMPANY	1950	1955	1956	1957	1958	1959	1960	1961
Total	1,038	935	899	878	855	849	842	824
Class I line-haul operating	127	126	113	110	110	108	106	103
Lessors to Class I	179	155	145	142	132	129	128	125
Class II line-haul operating	171	155	309	304	303	303	304	297
Lessors to Class II	6	8	14	13	12	12	8	8
Class III line-haul operating	166	155	-----	-----	-----	-----	-----	-----
Lessors to Class III	9	8	-----	-----	-----	-----	1	2
Switching and terminal ¹	253	237	234	232	226	223	221	219
Proprietary ²	100	67	64	55	52	53	53	51
Circular	18	18	19	19	19	18	21	19
Unofficial	9	6	1	3	1	3	1	2

¹ Includes operating, lessor, proprietary, circular, and unofficial companies.

² Excludes those in systems which file consolidated reports combining mileage, investment, and other items on a net system basis.

Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States*, and, beginning 1955, *Transport Statistics in the United States*, Part 1.

No. 783. RAILROADS—EQUIPMENT IN SERVICE: 1950 TO 1961

[Beginning 1960, includes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 53-65]

ITEM	1950	1955	1957	1958	1959	1960	1961
Locomotives	42,951	33,533	32,391	31,616	31,539	31,178	30,889
Steam	26,680	6,266	2,608	1,488	871	374	210
Electric	827	639	597	562	517	498	484
Diesel	15,396	26,563	29,137	29,515	30,097	30,240	30,123
Other	48	65	40	51	54	66	72
New units installed ¹	3,215	1,007	1,015	346	855	380	288
Freight cars ²	1,745,778	1,723,747	1,777,557	1,755,775	1,708,116	1,690,396	1,635,342
Box	718,150	723,962	745,269	731,437	714,789	700,331	672,524
Gondola and hopper	874,801	845,809	875,519	871,081	840,802	831,473	804,440
Other	152,827	153,976	156,769	153,257	152,525	158,592	158,378
Aggregate capacity ¹ 1,000 tons	90,465	91,229	95,084	94,486	92,264	91,948	89,292
Average capacity ¹ tons	52.6	53.7	54.5	54.8	55.0	55.4	55.7
New units installed ¹	40,032	29,070	82,427	34,120	42,507	54,032	26,270
Passenger-train cars	37,350	32,118	29,564	28,090	27,419	25,746	24,433
Coaches	16,488	13,543	12,323	11,934	11,121	10,287	9,840
Average seating capacity ¹	75	75	75	70	70	70	70
Baggage, express, and other non-passenger	13,817	13,388	10,873	10,672	10,244	10,077	9,728
Other	7,054	5,187	6,363	6,393	6,054	5,382	4,865
New units installed ¹	1,078	412	232	143	66	251	214
Air-conditioned cars ³	16,747	14,784	14,323	13,675	12,983	11,787	11,259

¹ Class I railroads. ² Excludes caboose cars. ³ Class I railroads and Pullman Company.

Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1.

No. 784. RAILROADS (CLASS I)—FUEL AND POWER CONSUMED AND RAILS AND TIES LAID: 1950 TO 1961

[No class I railroads in Alaska and Hawaii. Line-haul railroads only. See text, p. 573, for explanation of change in class limit beginning 1950. See also *Historical Statistics, Colonial Times to 1957*, series Q 128-137, for related data]

ITEM	1950	1957	1958	1959	1960	1961
Fuel and power consumed:						
Coal	1,000 short tons	55,452	4,866	1,150	300	39
Fuel oil	1,000,000 gal.	2,284	89	67	82	94
Diesel oil	do	1,827	3,536	3,382	3,484	3,472
Electricity	1,000,000 kwh	2,260	2,025	1,800	1,748	1,641
Rails and ties laid:						
Rails (replacement and betterment)	1,000 short tons	2,454	1,592	921	1,012	915
Ties (in previously constructed tracks):						
Crossties	1,000	30,494	22,082	16,030	16,423	14,319
Switch and bridge ties	1,000 board ft	98,400	71,582	54,985	54,378	49,902

Source: Interstate Commerce Commission; *Annual Report*.

Transportation, Land and Air

No. 785. RAILROADS—MILES OF ROAD OWNED, STATES: 1940 TO 1961

[As of December 31. Data are for actual length of line of each State without duplication]

STATE	1940	1950	1960	1961	STATE	1940	1950	1960	1961
U.S.	234,398	224,371	217,552	216,445	S.A.—Con.				
N.E.	6,677	6,396	6,088	6,033	W. Va.	3,831	3,719	3,681	3,665
Maine	1,882	1,830	1,784	1,744	N.C.	4,668	4,435	4,310	4,290
N.H.	1,002	936	854	853	S.C.	3,466	3,223	3,284	3,266
Vt.	919	889	811	811	Ga.	6,334	6,043	5,854	5,811
Mass.	1,793	1,726	1,633	1,624	Fla.	5,218	4,793	4,655	4,632
R.I.	194	185	181	181	E.S.C.	16,179	15,574	15,233	15,165
Conn.	887	830	825	820	Ky.	3,691	3,641	3,526	3,526
M.A.	20,175	19,180	17,469	17,223	Tenn.	3,573	3,471	3,402	3,375
N.Y.	7,739	7,493	6,463	6,379	Ala.	4,996	4,723	4,646	4,633
N.J.	2,108	1,992	1,914	1,891	Miss.	3,919	3,739	3,650	3,631
Pa.	10,328	9,695	9,092	8,953	W.S.C.	31,497	29,771	28,341	28,293
E.N.C.	41,281	39,851	38,949	38,631	Ark.	4,357	4,079	3,937	3,934
Ohio	8,501	8,418	8,322	8,227	La.	16,350	15,611	14,755	14,699
Ind.	6,889	6,652	6,593	6,551	Oklahoma	6,302	5,977	5,777	5,787
Ill.	11,949	11,643	11,201	11,068	Tex.	4,482	4,104	3,872	3,873
Mich.	7,303	6,803	6,640	6,592	Mt.	23,518	22,101	21,355	21,339
Wis.	6,639	6,335	6,193	6,193	Mont.	5,149	5,059	4,962	4,962
W.N.C.	48,293	47,108	46,367	46,177	Idaho	2,008	1,925	1,882	1,882
Minn.	8,421	8,333	8,174	8,128	Wyo.	4,552	4,273	3,786	3,786
Iowa	8,950	8,585	8,561	8,510	Colo.	2,812	2,496	2,473	2,474
Mo.	7,042	6,735	6,582	6,595	N. Mex.	2,228	2,197	2,184	2,180
N. Dak.	5,266	5,256	5,194	5,195	Ariz.	2,082	1,788	1,736	1,736
S. Dak.	4,006	3,958	3,920	3,909	Utah	1,941	1,650	1,647	1,634
Nebr.	6,044	5,800	5,721	5,655	Nev.	2,746	2,713	2,685	2,685
Kans.	8,564	8,441	8,215	8,185	Pac.	17,303	16,466	16,388	16,342
S.A.	29,475	27,924	27,362	27,242	Wash.	5,243	5,124	4,987	4,973
Del.	295	295	293	293	Oreg.	3,385	3,217	3,174	3,172
Md.	1,367	1,309	1,141	1,141	Calif.	7,947	7,533	7,630	7,616
D.C.	35	34	31	31	Alaska	536	567	572	556
Va.	4,261	4,073	4,113	4,113	Hawaii	192	25	25	25

Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States*, and, beginning 1960, *Transport Statistics in the United States*, Part 1.

No. 786. RAILROADS (CLASS I)—OPERATING REVENUES, EXPENSES, INCOME, AND CAPITAL EXPENDITURES: 1950 TO 1962

[In millions of dollars. No class I railroads in Alaska and Hawaii. See text, p. 573, for explanation of change in class limits beginning 1956. See also *Historical Statistics, Colonial Times to 1957*, series Q 103-117.]

ITEM	1950	1955	1957	1958	1959	1960	1961	1962 (prel.)
Operating revenues								
Freight	9,473	10,107	10,506	9,565	9,825	9,517	9,187	9,440
Passenger	7,817	8,539	8,942	8,071	8,312	8,028	7,737	7,901
Mail	813	743	735	675	651	640	625	610
Express	374	267	292	328	330	331	342	344
Other	81	118	98	91	116	100	83	82
Operating expenses	7,059	7,641	8,238	7,544	7,705	7,566	7,271	7,410
Maintenance	2,995	3,172	3,346	2,944	3,034	2,982	2,802	2,898
Way and structures	1,287	1,387	1,433	1,223	1,236	1,192	1,118	1,155
Equipment	1,708	1,785	1,913	1,720	1,798	1,760	1,684	1,744
Traffic	192	236	259	252	259	258	248	252
Transportation, rail line	3,491	3,768	4,102	3,834	3,888	3,833	3,711	3,755
Miscellaneous operations	110	108	104	92	86	82	77	77
General	271	357	427	422	438	441	433	436
Net revenue from railway operations	2,414	2,466	2,269	2,021	2,120	1,951	1,916	2,021
Tax accrals	1,195	1,081	1,070	957	1,048	999	992	905
Operating income	1,219	1,385	1,199	1,064	1,073	952	924	1,116
Net railway operating income	1,040	1,129	923	762	748	585	538	726
Ratio of expenses to revenues (percent)	74.5	75.6	78.4	78.9	78.4	79.5	79.1	78.6
Expenditures for capital improvements	1,065	908	1,395	738	818	919	946	833
Equipment	779	568	1,008	480	568	633	427	593
Roadway and structures	286	340	387	258	250	286	219	240

Source: Interstate Commerce Commission; *Annual Report*.

No. 787. RAILROADS (CLASS I)—SELECTED FREIGHT STATISTICS: 1950 TO 1962
 [No class I railroads in Alaska and Hawaii. Excludes switching and terminal roads. Tons of 2,000 pounds. See text, p. 573, for explanation of change in class limits beginning 1956]

ITEM	1950	1955	1959	1960	1961	1962 (prel.)
Average miles of road operated.....	225,339	222,295	220,001	219,665	218,396	217,449
Operating revenue.....mill. dol.	7,817	8,538	8,312	8,029	7,716	7,969
Per ton-mile.....cents	1.33	1.37	1.45	1.40	1.37	1.35
Per ton per road.....dollars	3.04	3.25	3.63	3.51	3.52	3.50
Revenue-tons:						
Originated.....millions	1,354	1,393	1,232	1,241	1,194	1,602
Carried.....do	2,570	2,625	2,290	2,287	2,191	2,278
Carried 1 mile.....do	588,578	623,615	575,418	572,321	561,837	591,718
Miles per revenue-ton per road (average haul).....	229.0	237.6	251.3	250.2	256.5	259.8
Freight train miles.....millions	515	476	414	405	386	393
Freight train car-miles:						
Loaded, revenue and nonrevenue.....do	19,644	20,099	17,803	17,287	16,648	16,994
Empty.....do	10,140	11,054	10,786	10,872	10,541	10,755
Net ton-miles per train-mile ²	1,224	1,374	1,443	1,466	1,507	1,557
Net ton-miles per loaded car-mile ²	31.7	32.1	33.3	34.0	34.7	35.7
Train-miles per train-hour.....	16.8	18.6	19.5	19.5	19.9	20.0

¹ Data cover first 6 months only. ² Revenue and nonrevenue freight.

Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1.

No. 788. RAILROADS (CLASS I)—REVENUE FREIGHT ORIGINATED AND GROSS FREIGHT REVENUE, BY COMMODITY GROUPS: 1950 TO 1962

[No class I railroads in Alaska and Hawaii. Carload freight only, except as specified. See text, p. 573, for explanation of change in class limits beginning 1956. See also *Historical Statistics, Colonial Times to 1957*, series Q 73-80]

COMMODITY GROUP	1950	1957	1958	1959	1960	1961	1962 ¹ (prel.)
REVENUE FREIGHT ORIGINATED (1,000,000 short tons)							
Total.....	1,354	1,380	1,190	1,232	1,241	1,194	602
Agricultural products.....	120	138	147	146	150	154	71
Livestock and livestock products.....	14	11	10	10	9	9	5
Mining products.....	747	770	620	633	649	616	305
Coal and coke.....	420	422	344	344	338	326	170
Other.....	327	348	285	289	311	289	135
Forest products.....	79	77	73	80	79	75	39
Manufactures and miscellaneous ²	374	379	327	359	349	337	181
All less-than-carload freight.....	11	5	4	4	3	3	1
GROSS FREIGHT REVENUE (\$1,000,000)							
Total.....	8,146	9,372	8,470	8,704	8,402	8,114	4,184
Agricultural products.....	1,055	1,209	1,286	1,226	1,192	1,172	554
Livestock and livestock products.....	276	270	247	243	229	217	102
Mining products.....	1,994	2,390	1,985	1,978	1,969	1,863	946
Coal and coke.....	1,301	1,468	1,202	1,172	1,140	1,104	572
Other.....	698	922	784	806	830	759	374
Forest products.....	581	654	646	708	651	628	318
Manufactures and miscellaneous ²	3,888	4,596	4,093	4,365	4,207	4,109	2,214
All less-than-carload freight.....	358	252	212	184	153	125	51

¹ Data cover first 6 months only. ² Includes forwarder traffic.

Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1.

No. 789. RAILROADS (CLASS I)—NUMBER OF CARS OF REVENUE FREIGHT LOADED, BY PRINCIPAL COMMODITIES: 1940 TO 1962

[In thousands. Figures are 52-week totals. No class I railroads in Alaska and Hawaii. See text, p. 573, for explanation of change in class limits beginning 1956]

YEAR	Total	Grain and grain products	Live-stock	Coal	Coke	Forest products	Ore	Miscellaneous	Mdse., less than carload	Cars loaded with highway trailers
1940.....	36,358	1,835	685	6,820	549	1,800	2,148	14,842	7,679	-----
1945.....	41,918	2,734	804	8,206	695	2,039	2,474	19,258	5,526	-----
1950.....	33,903	2,466	491	7,240	727	2,226	2,529	18,955	4,269	-----
1955.....	37,636	2,633	441	6,508	616	2,275	2,846	19,087	3,230	168
1957.....	35,500	2,674	343	6,749	575	1,995	2,863	17,551	2,750	249
1958.....	30,222	2,874	307	5,522	343	1,853	1,752	15,242	2,320	278
1959.....	31,015	2,725	300	5,426	411	2,050	1,665	16,326	2,112	417
1960.....	30,441	2,786	259	5,318	403	1,950	2,209	15,707	1,809	554
1961.....	28,690	2,847	223	5,086	345	1,867	1,739	15,030	1,453	591
1962.....	28,718	2,773	210	5,269	356	1,896	1,728	15,320	1,166	706

Source: Association of American Railroads, Car Service Division, Washington, D.C.; annual report, *Cars of Revenue Freight Loaded*. Weekly reports are published currently.

No. 790. RAILROADS (CLASS I)—SELECTED PASSENGER STATISTICS: 1950 TO 1962
 [No class I railroads in Alaska and Hawaii. See text, p. 573, for explanation of change in class limits beginning 1956. See also *Historical Statistics, Colonial Times to 1957*, series Q 87-89]

ITEM	1950	1957	1960	1961	1962 (prel.)
Average miles of road operated.....	150,349	112,724	93,816	88,854	85,908
Passenger revenue.....\$1,000.	813,417	735,127	640,057	619,850	614,422
Revenue per passenger-mile:					
Including commutation passengers.....cents.....	2.56	2.84	3.01	3.08	3.11
Excluding commutation passengers.....do.....	2.46	2.95	3.03	3.08	3.10
Revenue passengers carried.....1,000.	486,194	411,179	325,677	315,954	311,220
Revenue passenger-miles.....millions	31,760	25,889	21,261	20,131	19,700
Revenue passenger-miles per train-mile.....	88.5	93.9	100.9	101.5	102.4
Revenue passenger-miles per car-mile.....	17.0	18.0	19.3	19.8	20.0
Average journey per passenger per road.....miles	65.3	63.0	65.3	63.7	63.5
Passenger-train miles.....1,000.	357,618	275,766	210,635	198,312	192,945
Passenger-carrying car-miles.....do.....	1,854,737	1,435,776	1,101,021	1,019,227	989,235
Train-miles per train-hour.....	37.4	40.2	40.7	40.8	40.4

Source: Interstate Commerce Commission; *Annual Report*, and *Transport Statistics in the United States*, Part 1.

No. 791. RAILROADS—NUMBER AND COMPENSATION OF EMPLOYEES: 1950 TO 1962
 [Beginning 1960, Alaska and Hawaii included in "All operating carriers." Excludes switching and terminal roads. See also *Historical Statistics, Colonial Times to 1957*, series Q 141-142]

YEAR	ALL OPERATING CARRIERS		CLASS I CARRIERS ¹					
	Average number of employees	Total yearly compensation (\$1,000)	Average number of employees	Total hours (1,000)	Total yearly compensation (\$1,000)	Average hours per employee	Average compensation	
							Per hour ²	Per year
1950.....	1,236,879	4,644,890	1,220,401	2,876,591	4,594,423	2,357	\$1.60	\$3,705
1955.....	1,071,337	5,045,278	1,057,866	2,502,608	4,992,235	2,366	2.00	4,710
1957.....	998,880	5,422,080	986,001	2,314,976	5,358,044	2,348	2.32	5,434
1958.....	853,196	4,990,638	840,575	1,980,583	4,929,906	2,356	2.49	5,865
1959.....	827,716	5,048,524	815,474	1,924,500	4,956,253	2,360	2.59	6,115
1960.....	793,071	4,956,902	780,494	1,840,590	4,893,558	2,358	2.66	6,270
1961.....	727,148	4,683,563	717,543	1,698,704	4,623,982	2,367	2.72	6,444
1962 (prel.) ³	n.a.	n.a.	681,546	136,680	387,305	201	2.83	568

n.a. Not available. ¹ See text, p. 573, for explanation of change in class limits beginning 1956.

² Calculated for all classes of employees, including those not paid on an hourly basis.

³ Data for month of December.

Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States* and, beginning 1955, *Transport Statistics in the United States*, Part 1.

No. 792. RAILROAD ACCIDENTS—NUMBER OF PERSONS KILLED AND INJURED, BY STATUS: 1950 TO 1962

[As of December 31. Beginning 1960, includes Alaska and Hawaii. Covers all reportable accidents. Statistics are not strictly comparable. Accidents causing damage to railroad property, with or without a casualty, were classified as train accidents in 1950 if they were \$275 or over, and beginning 1955, \$350 or over. See also *Historical Statistics, Colonial Times to 1957*, series Q 143-152]

YEAR	TOTAL		PASSENGERS ¹		EMPLOYEES		TRESPASSERS		OTHER PERSONS	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	3,486	33,267	180	3,419	392	22,586	1,245	1,133	1,669	6,129
1950.....	3,486	33,267	180	3,419	392	22,586	1,245	1,133	1,669	6,129
1955.....	2,849	27,846	24	2,253	282	19,011	897	817	1,646	5,765
1957.....	2,393	18,688	15	1,566	195	12,246	742	617	1,441	4,259
1958.....	2,311	19,343	61	1,628	187	13,305	711	660	1,352	3,750
1959.....	2,094	19,009	10	1,352	178	14,203	641	619	1,265	3,735
1960.....	2,248	19,577	32	1,463	198	13,710	617	564	1,401	3,840
1961.....	2,127	27,118	17	1,887	145	20,194	624	678	1,341	4,859
1962 (prel.).....	2,106	26,880	27	2,109	190	19,733	617	678	1,272	4,360

¹ Data cover passengers on trains and travelers not on trains. Casualties sustained in nontrain accidents included with "Other persons." Nontrain accidents are those not caused directly by operation or movement of trains, locomotives, or cars, but attributable to shop machinery or use of tools and apparatus that result in reportable casualties.

Source: Interstate Commerce Commission; annual report, *Accident Bulletin*.

No. 793. HIGHWAY GRADE CROSSINGS AND ACCIDENTS AT HIGHWAY GRADE CROSSINGS—MOTOR VEHICLE CASUALTIES: 1950 TO 1962

[Beginning 1960, includes Alaska and Hawaii. Covers all railroads, except as noted. Excludes casualties due to suicide, mental derangement, and attempt to escape custody. See also headnote, table 792. See also *Historical Statistics, Colonial Times to 1957*, series Q 125-127]

YEAR	HIGHWAY GRADE CROSSINGS ¹			ACCIDENTS				
	Total	Specially protected ²	Eliminated by separation of grades	Number	All persons		Involving motor vehicles	
					Number killed	Number injured	Persons killed	Persons injured
1950-----	227,364	35,968	61	4,000	1,576	4,368	1,393	4,206
1955-----	226,318	39,060	84	3,846	1,446	4,014	1,313	3,886
1957-----	223,381	39,884	113	3,569	1,371	3,767	1,217	3,613
1958-----	225,938	41,155	78	3,099	1,271	3,161	1,129	3,026
1959-----	225,304	41,720	130	3,075	1,203	3,247	1,055	3,123
1960-----	224,513	42,267	102	3,195	1,364	3,424	1,254	3,277
1961-----	223,735	42,256	100	3,204	1,291	3,514	1,168	3,288
1962 (prel.)-----	n.a.	n.a.	n.a.	3,171	1,243	3,218	1,122	3,075

n.a. Not available. ¹ Class I railroads only.

² Includes crossings with operated gates or watchmen, or both, during at least part of day, and those with audible or visible signals, or both. Excludes those with fixed signs only.

Source: Interstate Commerce Commission; annual reports, *Accident Bulletin, Statistics of Railways in the United States*, and, beginning 1955, *Transport Statistics in the United States*, Part 1.

No. 794. PULLMAN COMPANY OPERATIONS: 1930 TO 1962

[Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 138-140]

YEAR	Average miles of road over which operations conducted	Revenue-passenger miles ¹ (millions)	Employees, annual average	YEAR	Average miles of road over which operations conducted	Revenue-passenger miles ¹ (millions)	Employees, annual average	
				1930	1935	1940	1945	1950
1930-----	120,578	12,516	26,165	1956-----	87,472	6,630	16,793	
1935-----	112,117	7,146	20,436	1957-----	85,068	5,388	14,890	
1940-----	109,595	8,214	20,877	1958-----	70,555	4,300	10,234	
1945-----	95,765	27,276	41,601	1959-----	71,448	3,462	8,020	
1950-----	102,722	10,558	22,820	1960-----	67,467	3,358	7,320	
1955-----	80,124	6,882	18,061	1961-----	68,035	3,046	6,688	
				1962-----	61,278	2,905	6,392	

¹ Beginning 1940, includes operations on Canadian and Mexican railroads; excludes chartered car operations.

Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States*, and, beginning 1955, *Transport Statistics in the United States*, Part 2.

No. 795. INTERCITY BUS LINES—SUMMARY OF OPERATIONS: 1960 TO 1962

ITEM	1960	1961	1962 estimate
Operating companies-----	1,550	1,550	1,550
Buses-----	24,530	25,830	26,550
Miles of highway served (Dec. 31) ¹ -----	238,000	239,000	239,000
Employees (Dec. 31) ² -----	48,800	49,800	51,200
Total bus miles-----	1,000,000	1,177	1,250
Revenue passengers-----	do	456.8	466.0
Revenue passenger-miles-----	do	19,900	21,000
Operating revenue, all services-----	\$1,000	584,400	600,600
Operating expenses-----	do	522,700	543,400
Net operating revenue before income taxes-----	do	61,700	579,800
Taxes assignable to operations ³ -----	do	56,000	52,500
		58,700	62,300

¹ Includes duplication between carriers. ² Operating companies only. ³ Excludes income taxes.

Source: National Association of Motor Bus Owners, Washington, D.C.; *Bus Facts*.

No. 796. TRANSIT INDUSTRY—SUMMARY: 1940 TO 1961

[Calendar years, except as noted. Beginning 1960, includes Alaska and Hawaii. Comprises all organized local passenger transportation agencies except taxicabs, suburban railroads, and sightseeing and school buses. Covers (a) local motorbus lines, (b) electric street railways, (c) elevated and subway lines, (d) interurban electric railways and (e) trolley coach lines. Based on financial and statistical reports received by American Transit Association from transit companies representing more than 85 percent of the industry. See also *Historical Statistics, Colonial Times to 1957*, series Q 330-340.]

ITEM	1940	1945	1950	1955	1957	1958	1959	1960	1961
Operating companies	n.a.	1,253	1,406	1,483	1,324	1,300	1,272	1,251	1,247
Motorbus companies ¹	n.a.	1,184	1,354	1,450	1,304	1,282	1,255	1,236	1,244
Miles of route operated (Dec. 31):									
Electric railway—miles of single track	19,602	17,702	10,813	6,197	5,019	3,844	3,445	3,143	2,601
Surface	18,360	16,480	9,690	4,976	3,774	2,600	2,200	1,900	1,355
Subway and elevated	1,242	1,222	1,223	1,221	1,245	1,244	1,245	1,243	1,246
Trolley coach—miles of negative overhead wire	1,925	2,313	8,513	3,428	3,007	2,723	2,491	2,190	2,017
Motorbus—miles of route round trip	78,000	90,400	98,000	99,800	102,400	104,500	106,300	108,700	111,500
Passenger vehicles owned (Dec. 31):									
Electric railway cars	75,464	89,758	86,310	73,089	68,971	67,149	65,780	65,202	64,012
Surface	37,662	36,377	22,986	14,532	12,759	12,201	11,983	11,866	11,419
Subway and elevated	26,630	26,160	13,228	5,300	3,601	3,108	2,983	2,856	2,341
Trolley coaches	11,032	10,217	9,758	9,282	9,158	9,093	9,000	9,010	9,078
Motorbuses	2,802	3,711	6,504	6,157	5,412	4,848	4,297	3,826	3,593
Investment (Dec. 31) mil. dol.	4,096	4,262	3,918	3,821	3,793	3,781	3,854	3,937	3,919
Electric railway	3,588	3,620	3,060	2,902	2,870	2,870	2,938	3,003	2,967
Surface	1,574	1,570	913	616	485	373	378	367	235
Subway and elevated	2,014	2,050	2,147	2,286	2,385	2,407	2,560	2,636	2,732
Trolley coach	58	76	144	160	143	139	125	117	115
Motorbuses	450	566	714	759	780	772	791	817	837
Operating finances:									
Operating revenue	737	1,380	1,452	1,426	1,386	1,350	1,376	1,407	1,390
Electric railway	456	710	578	440	383	366	365	369	366
Surface	328	560	362	176	115	99	93	88	80
Subway and elevated	128	149	216	264	268	267	272	282	286
Trolley coach	25	68	122	131	116	103	91	82	79
Motorbuses	256	603	752	856	886	881	920	956	945
Operating expenses	598	1,067	1,297	1,277	1,262	1,266	1,266	1,290	1,296
Percent of revenue	81.1	77.3	89.3	89.6	91.1	93.8	92.0	91.7	93.2
Net revenue	139	313	155	149	124	84	110	117	94
Taxes (all)	63	165	89	93	87	77	85	87	77
Operating income	76	149	66	56	37	7	26	31	17
Percent of revenue	10.4	10.8	4.6	3.9	2.6	0.5	1.9	2.2	1.2
Revenue vehicle-miles operated millions	2,596	3,254	3,008	2,448	2,290	2,201	2,159	2,143	2,077
Electric railway	1,316	1,398	907	561	495	476	470	466	455
Surface	845	940	463	178	107	90	81	75	69
Subway and elevated	471	458	443	383	388	387	389	391	385
Trolley coach	86	133	206	177	147	131	112	101	93
Motorbuses	1,195	1,722	1,895	1,710	1,648	1,594	1,577	1,576	1,530
Passengers carried	13,098	23,254	17,246	11,520	10,389	9,732	9,557	9,395	8,883
Electric railway	8,325	12,124	6,168	3,077	2,522	2,387	2,349	2,313	2,289
Surface	5,943	9,426	3,904	1,207	679	572	521	463	434
Subway and elevated	2,382	2,698	2,264	1,870	1,843	1,815	1,828	1,850	1,855
Trolley coach	534	1,244	1,658	1,202	993	843	749	657	601
Motorbuses	4,239	9,886	9,420	7,250	6,874	6,602	6,459	6,425	5,993
Revenue passengers carried	10,504	18,982	13,845	9,189	8,338	7,778	7,650	7,521	7,242
Electric railway	6,404	9,636	4,903	2,586	2,197	2,050	2,025	2,005	2,003
Surface	4,183	7,081	2,790	845	491	415	378	335	323
Subway and elevated	2,282	2,555	2,113	1,741	1,706	1,635	1,647	1,670	1,680
Trolley coach	419	1,001	1,261	869	703	593	517	447	405
Motorbuses	3,620	8,345	7,681	5,734	5,488	5,135	5,108	5,069	4,834
Number of employees (average)	203,000	242,000	240,000	198,000	177,000	165,000	159,100	156,400	151,800
Electric railway	123,000	129,200	90,900	66,000	54,500	49,000	47,700	46,500	43,700
Trolley coach	6,000	8,500	15,400	16,000	13,500	12,000	10,700	9,400	8,600
Motorbus	74,000	104,300	133,700	116,000	109,000	104,000	100,700	100,500	99,500
Payroll mil. dol.	360	632	835	864	840	831	832	857	856
Average annual earnings per employee dollars	1,773	2,612	3,479	4,364	4,746	5,036	5,229	5,481	5,642

n. a. Not available.

¹ Comprises companies operating motor buses exclusively and companies with combined services such as trolley coach and motorbus, etc.Source: American Transit Association, New York, N.Y.; annual report, *Transit Fact Book*.

No. 797. CLASS I INTERCITY MOTOR CARRIERS OF PROPERTY—SUMMARY OF FINANCIAL AND OPERATING STATISTICS: 1950 TO 1961

[All money figures in millions of dollars, except averages. Excludes Alaska and Hawaii. See text, p. 573, for explanation of change in class limits beginning 1957]

ITEM	1950	1955	1959	1960	1961
Number of carriers reporting	1,621	2,244	800	935	972
Investment in carrier operating property	748	1,515	1,824	1,992	2,093
Reserve for depreciation and amortization	309	736	903	998	1,098
Income statement:					
Operating revenue	2,380	4,030	4,500	4,763	4,908
Common carrier	2,181	3,622	4,261	4,384	4,583
Contract carrier	144	294	202	239	183
Other operating revenue	55	114	127	141	142
Expenses	2,215	3,870	4,392	4,645	4,718
Operation and maintenance expenses	1,068	3,497	3,955	4,151	4,209
Depreciation and amortization ¹	84	157	179	202	210
Operating taxes and licenses ²	163	216	258	291	298
Operating rents, net	59	n.a.	n.a.	n.a.	n.a.
Operating ratio (percent expenses of operating revenue)	93.1	96.0	95.7	97.5	96.1
Net operating revenue	165	100	109	119	101
Lease of distinct operating unit, net	1	1	2	1	2
Other income, less income deductions	6	14	29	36	55
Net income before income taxes	159	146	168	81	156
Net income after income taxes	93	82	92	37	84
Dividend appropriations and withdrawals ³	23	29	24	24	28
Operating statistics and averages:					
Owned revenue vehicles ⁴	191,243	288,668	265,090	279,305	284,522
Intercity vehicle-miles	5,352	7,559	7,085	7,203	7,023
Tons of intercity revenue freight carried ⁵	1,000	212,997	313,583	268,356	280,078
Miles per owned vehicle	53,833	53,008	61,696	59,590	58,068
Revenue per vehicle-mile (intercity)	\$0.43	\$0.52	\$0.63	\$0.64	\$0.67
Expense per vehicle-mile (intercity) ⁶	\$0.41	\$0.51	\$0.62	\$0.65	\$0.65

n.a. Not available.

¹ Amortization represents a very small part of this total.

² Excludes Federal and State income taxes.

³ Withdrawals of sole proprietors and partners.

⁴ Excludes equipment used under lease, including operations conducted under "purchased transportation" arrangements.

⁵ Includes duplications on account of tonnage received from connecting motor carriers.

⁶ Basic figures include expenses of operating vehicles in local services not available separately.

No. 798. CLASS I INTERCITY MOTOR CARRIERS OF PROPERTY—SELECTED OPERATING STATISTICS, BY REGIONS: 1960 AND 1961

[Money figures in millions of dollars. Excludes Alaska and Hawaii. See text, p. 573, for explanation of change in class limits, beginning 1957. Regions: 1, Conn., Maine, Mass., N.H., R.I., Vt.; 2, Del., D.C., Md., N.J., N.Y., Pa., W. Va.; 3, Ill., Ind., Mich. (Lower Pen.), Ohio; 4, Ala., Fla., Ga., Ky., Miss., N.C., S.C., Tenn., Va.; 5, Mich. (Upper Pen.), Minn., N. Dak., S. Dak., Wis.; 6, Iowa, Kans., Mo., Nebr.; 7, Ark., La., Okla., Tex.; 8, Colo., Idaho, Mont., N. Mex., Utah, Wyo.; 9, Ariz., Calif., Nev., Oreg., Wash.]

REGION AND YEAR	Number of carriers reporting	Operating revenue	Total expenses	OWNED REVENUE VEHICLES ¹				Inter-city vehicle-miles (millions)	EMPLOYEES ²	
				Trucks	Truck-tractors	Semi-trailers	Full trailers		Average number	Compensation
1960										
1. New England	935	4,763	4,645	30,560	87,933	157,657	3,155	7,203	326,626	2,103
2. Middle Atlantic	60	179	177	1,882	3,586	5,893	-----	187	15,638	94
3. Central	172	763	747	5,228	14,703	27,370	163	1,014	56,477	354
4. Southern	270	1,598	1,566	4,492	25,370	48,659	737	2,485	95,331	644
5. Northwestern	135	671	652	5,673	14,726	24,655	-----	1,161	51,628	310
6. Midwestern	47	204	201	1,371	4,729	7,545	-----	204	15,668	102
7. Southwestern	63	305	299	1,775	5,703	10,703	37	482	19,446	129
8. Rocky Mountain	73	380	364	3,169	7,346	10,931	17	665	28,487	170
9. Pacific	28	211	198	1,620	3,280	6,288	335	325	13,403	90
1961										
1. New England	972	4,908	4,718	30,346	87,790	163,070	3,319	7,022	323,508	2,138
2. Middle Atlantic	60	196	190	1,986	3,508	5,791	-----	189	16,202	102
3. Central	192	851	826	5,252	15,103	29,882	54	1,088	59,933	386
4. Southern	271	1,500	1,449	4,207	24,223	48,820	665	2,159	87,988	606
5. Northwestern	153	769	735	5,969	15,591	26,706	335	1,289	54,274	336
6. Midwestern	50	261	250	1,594	5,338	8,651	-----	376	17,638	118
7. Southwestern	64	298	291	1,650	5,428	10,304	33	445	19,027	129
8. Rocky Mountain	71	357	335	3,080	7,086	10,924	2	601	24,447	154
9. Pacific	26	217	201	1,652	3,357	6,588	329	812	13,477	94

¹ See footnote 4, table 797.

² Excludes drivers of equipment engaged to perform "purchased transportation" service.

No. 799. CLASS I INTERCITY MOTOR CARRIERS OF PASSENGERS—SUMMARY OF FINANCIAL AND OPERATING STATISTICS: 1950 TO 1961

[All money figures in millions of dollars, except average fare and revenue and expense per vehicle-mile. Excludes Alaska and Hawaii. See headnote, table 797. Excludes carriers subject to ICC jurisdiction engaged preponderantly in local or suburban service and carriers engaged in transportation of both property and passengers]

ITEM	1950	1955	1959	1960	1961
Number of carriers reporting	172	146	143	143	144
Investment in carrier operating property	286	373	441	466	481
Reserve for depreciation and amortization	144	197	243	257	261
Income statement:					
Operating revenue	351	362	439	463	485
Passenger revenue ¹	325	315	365	382	396
Special bus revenue	12	22	33	36	38
Other operating revenue	15	25	41	45	50
Expenses	315	331	380	405	423
Operation and maintenance expenses	255	270	313	334	351
Depreciation and amortization ²	27	27	29	29	28
Operating taxes and licenses ³	29	30	34	36	38
Operating rents, net	4	3	5	6	6
Operating ratio (percent expenses of operating revenue)	89.7	91.4	86.6	87.5	87.2
Net operating revenue	36	31	59	58	62
Other income, less income deductions	1	2	2	3	3
Net income before income taxes	35	29	57	55	59
Net income after income taxes	19	16	29	28	31
Dividend appropriations and withdrawals ⁴	16	28	4	3	8
Operating statistics and averages:					
Passenger vehicles owned, end of year	13,200	11,547	10,763	10,946	11,036
Vehicle-miles of owned and leased passenger vehicles ⁵	1,000	958,530	850,207	810,455	843,239
Number of revenue passengers carried	do	389,988	293,244	251,214	267,507
Miles per vehicle ⁶	65,411	64,128	65,375	65,567	66,480
Average fare per passenger, per carrier, intercity service	\$1.01	\$1.37	\$2.00	\$2.12	\$2.20
Passenger revenue per vehicle-mile, regular route intercity	\$0.35	\$0.38	\$0.48	\$0.49	\$0.49
Expense per vehicle-mile ⁷	\$0.33	\$0.38	\$0.47	\$0.48	\$0.49

¹ Regular route intercity and local revenue. ² Amortization represents a very small part of this total.

³ Excludes Federal and State income taxes. ⁴ Withdrawals of sole proprietors and partners.

⁵ Includes bus-miles of vehicles operated under "purchased transportation" arrangements.

⁶ Averages for owned and leased vehicles. ⁷ See footnote 6, table 797.

No. 800. CLASS I INTERCITY MOTOR CARRIERS OF PASSENGERS—SELECTED OPERATING STATISTICS, BY REGIONS: 1960 AND 1961

[Excludes Alaska and Hawaii. See headnote, table 799; for description of regions, see headnote, table 798]

REGION AND YEAR	Number of carriers reporting	Operating revenue (\$1,000)	Total expenses (\$1,000)	PASSENGER VEHICLES		REGULAR-ROUTE INTERCITY		EMPLOYEES	
				Total ¹	Inter-city ²	Vehicle-miles (1,000)	Revenue-passenger-carried (1,000)	Average fare per passenger, per carrier	Average number
1960	143	463,115	405,393	12,680	11,142	728,873	166,997	\$2.12	34,514
1. New England	10	15,604	14,748	734	247	14,481	5,288	1.36	1,599
2. Middle Atlantic	36	51,600	48,340	1,773	1,280	60,277	28,454	1.17	3,970
3. Central	24	97,963	85,167	2,118	2,034	146,040	38,923	2.00	7,683
4. Southern	20	100,904	85,633	2,442	2,431	173,612	42,040	1.93	7,094
5. Northwestern	4	1,875	1,596	79	79	3,577	506	2.33	116
6. Midwestern	9	61,781	53,643	1,338	1,278	104,402	15,865	3.16	4,147
7. Southwestern	23	43,450	38,698	2,114	2,081	90,132	14,991	2.18	3,477
8. Rocky Mountain	9	6,550	5,942	300	299	12,325	2,054	2.26	550
9. Pacific	8	83,383	71,625	1,782	1,413	124,029	18,867	3.35	5,878
1961	144	484,529	422,580	12,742	11,339	750,791	168,371	2.20	34,875
1. New England	10	16,709	16,011	747	267	15,806	5,205	1.53	1,670
2. Middle Atlantic	40	56,121	53,063	1,956	1,520	65,690	31,711	1.16	4,139
3. Central	23	101,928	89,412	2,054	1,964	154,086	37,773	2.25	7,623
4. Southern	20	102,283	86,095	2,472	2,441	174,576	41,008	1.98	7,057
5. Northwestern	4	1,908	1,609	73	73	3,438	488	2.47	115
6. Midwestern	8	65,439	55,475	3,114	3,114	109,182	16,081	3.33	4,258
7. Southwestern	22	46,246	39,484	2,036	2,024	91,272	15,081	2.28	3,519
8. Rocky Mountain	10	6,935	6,232	350	348	12,638	2,155	2.28	573
9. Pacific	7	86,961	74,600	1,740	1,388	124,103	18,808	3.47	5,921

¹ Comprises average number operated in intercity service during year and number owned in local operations at close of year.

² Comprises vehicles owned, leased, and operated under "purchased transportation" arrangements, operated in intercity revenue service.

Source of tables 799 and 800: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 7.

No. 801. SUMMARY OF CIVIL FLYING: 1940 TO 1961

[As of Dec. 31 or for year ending Dec. 31. Includes Alaska and Hawaii, except as noted. General aviation flying excludes civil flying performed by public carriers—scheduled, supplemental, contract, or intrastate. See also *Historical Statistics, Colonial Times to 1957*, series Q 376-383 and Q 394-397]

ITEM	1940	1950	1955	1957	1959	1960	1961
Miles of Federal airways ¹	32,100	70,253	148,970	169,301	176,934	178,924	135,447
Equipped with low/medium frequency radio aids	32,100	70,253	67,770	64,817	47,302	36,879	14,543
Equipped with very high frequency radio aids			81,209	104,484	129,632	142,045	
Total civil aircraft ^{1,2}	17,928	92,809	85,320	98,180	105,309	111,580	120,904
Active aircraft	n.a.	60,921	60,432	67,153	70,747	78,760	82,853
Hours flown (general aviation) ³	3,200	9,650	9,500	10,938	12,000	12,203	12,650
Business ⁴	314	2,750	4,300	4,864	5,300	5,300	5,800
Commercial ⁵	387	1,500	1,950	2,013	2,200	2,200	2,450
Instructional	1,529	3,000	1,275	1,864	1,900	1,700	1,670
Personal	970	2,300	1,975	2,109	2,600	2,950	3,160
Other	do	100		88		53	70
Miles flown (general aviation) ³	264,000	1,061,500	1,216,000	1,426,285	1,596,000	1,645,000	1,728,000
Business ⁴	25,910	339,700	627,800	720,800	798,000	811,000	827,000
Commercial ⁵	31,961	180,500	245,700	249,400	279,000	281,000	316,000
Instructional	126,264	286,000	120,650	202,375	205,000	184,000	182,000
Personal	79,865	244,100	221,850	240,950	314,000	362,000	395,000
Other	do	10,600		12,760		7,000	8,000
Fuel consumed (general aviation): ³							
Gasoline	22,400	131,200	190,000	209,868	241,000	268,160	279,700
Oil	600	2,916	3,450	3,498	3,950	4,325	4,370
Certificated airplane pilots	69,829	n.a.	643,201	702,519	758,368	783,232	804,707
Airline transport	1,431	n.a.	13,700	16,900	19,364	20,985	22,042
Commercial	18,791	n.a.	211,142	237,149	255,377	262,437	268,707
Private	49,007	n.a.	418,350	448,470	483,627	499,810	513,958
Other certificated airmen:							
Glider pilots	138	n.a.	3,659	3,987	4,502	4,974	4,109
Mechanics	11,177	n.a.	91,001	102,691	113,520	115,688	118,689
Parachute riggers	444	n.a.	2,859	2,450	2,835	2,936	3,127
Ground instructors	1,948	n.a.	27,080	27,825	30,179	20,421	29,526
Aids to air navigation (Federal airways): ¹							
Radio range stations	292	749	768	818	983	1,030	1,042
Low/medium frequency	200	373	344	332	322	305	282
Very high frequency	2	371	424	486	661	725	760
Non-directional radio beacons	48	141	175	185	191	190	176
Airport towers		172	100	110	139	153	184
Airways centers	11	31	31	31	33	35	36
Combined station/towers			75	81	83	75	70
Flight service stations	365	451	364	350	332	335	338
Instrument landing systems	1	96	157	165	174	191	195
Airports in operation ⁶	2,331	6,403	6,830	1,6,412	6,426	6,881	7,715
General ⁷			2,713	1,3,195	2,049	3,026	3,274
Limited and restricted ⁷			4,126	1,3,217	3,477	3,855	4,441
Lighted airports	776	1,670	1,247	1,1,713	1,943	2,133	2,290
Aircraft accidents (general aviation) ⁸	3,471	4,505	3,343	4,202	4,576	4,793	4,625
Aircraft destroyed	433	1,527	798	708	1,178	n.a.	n.a.
Substantial damage	2,505	2,947	2,500	3,420	3,369	n.a.	n.a.
Minor and no damage	833	31	36	65	29	n.a.	n.a.
Degree of injury to persons in aircraft accidents (general aviation):							
Fatal ⁹	350	871	619	801	823	787	760
Severe	327	546	347	391	449	n.a.	n.a.
Minor and no injury	4,744	6,203	4,974	6,262	3,304	n.a.	n.a.

n.a. Not available.

¹ United States and outlying areas. ² Includes gliders.

³ Prior to 1960, excludes Alaska and Hawaii.

⁴ Corporation and individual business transportation, not for hire.

⁵ Passenger and cargo transportation for hire, aerial application (crop dusting, spraying, seeding, etc.), patrol, survey, and other miscellaneous work use.

⁶ Existing airports and airfields recorded with FAA. "Limited" includes seaplane bases and heliports.

⁷ See footnote 2, table 812, for current definitions.

⁸ Detail shown is number of accidents. Preliminary total for 1962 is 4,650; detail not available.

⁹ Preliminary figure for 1962 is 864.

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Includes data from Civil Aeronautics Board.

Transportation, Land and Air

No. 802. SCHEDULED PASSENGER/CARGO AIR CARRIERS—SUMMARY OF OPERATIONS: 1940 TO 1961

(As of Dec. 31 or for year ending Dec. 31, except as noted. Hawaii included with domestic carriers and outlying areas with international, all years. Intra-Alaska included with domestic carriers and Mainland-Alaska with international, as follows: Traffic data, beginning 1950; fuel and financial data, beginning 1955; and personnel data, beginning 1960. See also *Historical Statistics, Colonial Times to 1967*, series Q 352, Q 354-362 and Q 384-393.)

ITEM	1940	1950	1955	1957	1959	1960	1961
Number of operators:							
Domestic	19	38	38	30	30	31	33
International	3	12	17	14	15	16	8
Route miles in operation ¹ :	95,079	183,841	196,274	222,209	232,695	249,717	258,012
Domestic ²	42,757	77,440	78,992	88,325	96,665	101,414	107,814
International ²	52,322	106,401	117,282	133,884	136,030	148,303	150,198
Aircraft in operation ³ :	437	1,220	1,480	1,835	1,850	1,867	1,873
Fixed wing:	437	1,209	1,461	1,809	1,827	1,842	1,854
Four-engine		693	984	1,131	1,160	1,160	1,165
Turbo-jet				84	202	302	
Turbo-prop			8	50	178	181	208
Piston		n.a.	685	925	809	777	685
Twin-engine		n.a.	766	825	696	682	655
Turbo-jet					35	46	17
Turbo-prop					601	636	49
Piston			766	825			589
Single engine, piston			2				4
Helicopter		11	19	26	23	25	19
Average available seats: ⁴							
Domestic	16.5	37.5	51.2	53.7	58.7	65.5	72.9
International	18.3	41.0	56.4	61.4	67.5	89.9	108.7
Average speed (miles per hour):							
Domestic	n.a.	180	208	215	223	235	252
International	n.a.	218	244	253	263	307	357
Fuel consumed:							
Gasoline	1,000 gal.	74,535	572,246	1,170,240	1,489,564	1,475,193	1,127,006
Domestic	do	65,075	418,442	911,748	1,165,013	1,141,734	922,480
International	do	8,860	153,804	258,492	324,551	333,459	204,526
Jet fuel, domestic	do			1,827	80,909	413,362	888,003
International	do					63,417	1,402,561
Oil	do	1,288	6,675	14,161	19,094	21,457	15,546
Domestic	do	1,104	5,007	11,418	15,206	10,807	12,688
International	do	184	1,668	2,743	3,828	4,650	2,857
Total personnel employed:	22,051	82,786	122,203	147,190	160,690	164,644	166,493
Domestic	15,934	61,903	95,548	119,333	132,042	134,546	136,987
International	6,067	20,883	26,655	27,857	28,648	30,098	29,506
Revenue-miles flown (all scheduled services)	1,000	119,753	458,087	762,777	952,830	1,014,068	983,390
Domestic	do	110,101	364,256	627,336	791,205	841,925	820,766
International	do	9,682	93,831	135,441	161,571	172,143	162,634
Revenue passengers carried:	5,2965	19,019	41,709	53,313	60,296	62,250	63,012
Domestic	do	5,2523	17,345	38,221	48,761	54,955	56,352
International	do	163	1,675	3,488	4,552	5,341	5,004
Revenue passenger-miles flown:							
Domestic	1,000,000	1,052	8,003	19,852	25,379	29,308	30,557
International	do	100	2,206	4,499	5,882	7,064	8,306
Average passenger-mile rate:							
Domestic	\$0.0507	\$0.0555	\$0.0536	\$0.0531	\$0.0588	\$0.0000	\$0.0028
International	do	0.0883	0.0728	0.0666	0.0655	.0029	.0035
Express and freight, ton-miles flown:	1,000	n.a.	212,811	326,344	397,030	504,077	578,518
Domestic	do	3,476	152,223	229,966	268,701	344,728	386,933
International	do	n.a.	60,588	96,378	128,239	159,349	191,585
Mail, ton-miles flown:							
Domestic	do	10,118	47,740	88,751	100,218	120,308	135,923
International	do	26,228	53,390	66,894	81,997	103,335	150,454
Accidents, domestic: ⁷							
Number of accidents	20	36	60	44	61	62	56
Revenue-miles flown per accident	1,000	3,803	10,273	10,456	17,083	13,802	13,238
Total fatalities	45	100	180	34	242	363	14,199
Passenger-fatalities per 100 million passenger-miles flown	3.0	1.1	0.8	0.1	0.7	0.9	0.4
Accidents, international: ⁷							
Number of accidents	6	5	5	7	6	5	2
Revenue-miles flown per accident	1,000	1,609	18,925	28,984	23,082	28,691	32,527
Total fatalities	56	4	44	44	68	15	80,647
Passenger-fatalities per 100 million passenger-miles flown		2.1	(8)	0.6	0.8	0.1	

n.a. Not available. ¹ Not compiled for intra-Alaska.

² 1940, domestic is average for December, international as of Dec. 31; 1950-1961, based on fourth quarter.

³ Represents aircraft of the certificated route air carriers; excludes those used for crew training and general utility purposes, and those held for disposal.

⁴ Obtained by dividing passenger seat miles by revenue-miles flown in passenger service.

⁵ Data for domestic passengers include duplication.

⁶ Excludes freight flown by certificated all-cargo operators and irregular carriers.

⁷ Revenue operations accidents. Preliminary 1962 data for "Accidents, domestic": Number, 34; fatalities, 183; and passenger-fatalities rate, 0.3; and for "Accidents international": Number, 8. ⁸ Less than 0.05 percent.

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Includes data from Civil Aeronautics Board.

Scheduled Air Carriers

587

No. 803. SCHEDULED AIR CARRIERS—AVAILABLE SERVICE AND UTILIZATION, AND TRAFFIC CARRIED: 1953 TO 1962

[In millions, except percent. Includes Alaska and Hawaii]

ITEM	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
SERVICE AND UTILIZATION										
Available ton-miles	3,955	4,463	5,289	6,171	7,231	7,326	8,337	9,384	10,580	12,324
Revenue ton-miles	2,288	2,564	3,088	3,619	4,082	4,120	4,734	5,024	5,394	6,238
Ton-mile load factor—percent	57.9	57.5	58.4	58.6	56.5	56.2	56.8	53.5	51.0	50.6
Available seat-miles	28,902	33,377	38,574	43,674	51,059	58,115	59,247	65,567	71,857	82,608
Revenue passenger-miles	18,245	20,613	24,351	27,626	31,261	31,499	36,372	38,863	39,831	43,768
Passenger load factor—percent	63.0	61.8	63.1	63.3	61.2	59.3	61.4	59.3	55.4	53.0
Revenue plane-miles	638	672	763	851	976	973	1,080	998	969	1,009
TRAFFIC CARRIED (revenue ton-miles)										
Total	2,288	2,564	3,088	3,619	4,082	4,120	4,734	5,024	5,394	6,238
Passenger ¹	1,777	2,007	2,368	2,686	2,999	3,023	3,490	3,733	3,827	4,210
U. S. mail:										
Priority	98	108	128	137	144	160	182	202	223	251
Nonpriority	2	11	15	15	17	17	19	39	76	89
Express	44	42	51	53	46	49	57	59	61	70
Freight	304	312	383	451	507	501	589	643	733	808
Charter flights	36	51	106	233	319	321	346	296	423	668
Excess baggage	28	32	37	43	50	48	52	53	50	52

¹ Passenger-miles converted to ton-miles on basis of about 10 to 1; that is, 10 passengers with allowable free baggage are accepted as equaling 1 ton.

Source: Air Transport Association of America, Washington, D.C.; *Air Transport Facts and Figures*, and records.

No. 804. SCHEDULED PASSENGER/CARGO OPERATIONS—OPERATING REVENUES AND EXPENSES OF CERTIFICATED AIR CARRIERS: 1955 TO 1961

[In millions of dollars. Includes intra-Alaska and intra-Hawaii carriers; see also headnote, table 802. 1955 and 1956 not exactly comparable with later years because of revisions in reporting system. Beginning 1960, aircraft expense items include some ground and indirect expenses not previously included and the ground and indirect expense item covers only expenses chargeable to general services and administration]

ITEM	1955	1956	1957	1958	1959	1960	1961
DOMESTIC							
Revenues	1,215	1,359	1,530	1,636	1,955	2,129	2,245
Passenger	1,065	1,193	1,348	1,432	1,722	1,860	1,951
Mail (including subsidy)	61	67	75	82	95	113	130
Express and freight	62	64	69	78	91	103	114
Excess baggage	12	15	19	19	21	21	20
Other	15	20	21	25	25	32	30
Expenses	1,091	1,258	1,489	1,539	1,848	2,091	2,227
Aircraft:							
Flying operations	328	372	470	475	551	601	633
Direct maintenance flight equipment	138	168	176	187	230	258	446
Depreciation and amortization flight equipment	93	97	135	125	151	184	286
Ground and indirect	532	621	709	752	915	1,048	882
Net operating income	124	101	41	98	107	38	19
INTERNATIONAL							
Revenues	398	471	509	531	592	685	722
Passenger	300	349	385	396	445	523	533
Mail (including subsidy)	30	39	33	38	40	48	60
Express and freight	33	38	43	45	52	59	63
Excess baggage	7	8	9	9	9	10	10
Other	28	36	39	43	46	41	57
Expenses	380	436	480	520	574	639	686
Aircraft:							
Flying operations	115	133	151	164	170	180	187
Direct maintenance flight equipment	37	48	45	48	58	58	109
Depreciation and amortization flight equipment	29	32	46	48	64	66	92
Ground and indirect	200	224	239	260	292	336	298
Net operating income	18	35	28	11	19	45	36

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Data from Civil Aeronautics Board.

No. 805. SUPPLEMENTAL AIR CARRIERS—SUMMARY OF OPERATIONS: 1955 TO 1961

[In thousands, except number of operators. Supplemental air carriers are those carriers operating by authority of letters of registration granted by the Civil Aeronautics Board. Includes international operations; see also headnote, table 802. Figures shown for military cover activities performed under charter or other contract with the Department of Defense]

ITEM	1955	1956	1957	1958	1959	1960	1961
Number of operators	50	48	37	35	31	30	27
Revenue-miles	40,330	42,381	32,942	36,825	38,670	49,498	45,724
Commercial	17,376	15,860	11,177	12,907	14,386	13,228	15,697
Military	22,954	20,521	21,765	23,918	24,284	36,270	30,027
Revenue passengers	789	663	535	676	859	1,048	978
Revenue passenger-miles	1,395,682	1,004,052	767,287	1,152,988	1,629,556	2,207,595	1,543,027
Commercial	716,096	628,876	429,807	595,191	769,382	671,094	808,890
Military	679,586	375,176	337,480	557,797	860,174	1,536,501	644,137
Available seat-miles	1,767,162	1,382,573	1,120,378	1,593,174	2,513,914	2,680,520	2,216,780
Revenue cargo ton-miles	74,601	110,377	86,707	89,195	84,570	120,400	158,859
Commercial	21,191	19,262	8,697	10,417	11,357	5,355	7,370
Military	53,410	91,115	78,010	78,778	73,183	115,045	151,489
Available ton-miles	307,932	283,465	216,267	263,008	318,158	411,010	444,781
Operating revenue	\$76,824	\$67,600	\$50,456	\$65,204	\$76,480	\$83,447	\$82,170
Transport	66,923	60,974	44,051	59,241	66,405	79,711	79,331
Passenger	20,494	17,984	10,701	15,966	21,734	19,919	22,874
Freight	3,743	3,134	874	1,651	1,305	407	302
Contract and charter:							
Commercial	6,993	6,507	7,585	10,995	13,899	11,591	9,529
Military	35,133	33,109	24,656	30,437	29,309	47,527	45,678
Other	560	240	235	142	158	267	947
Other than transport	9,901	6,635	6,405	5,963	10,075	3,736	12,839
Operating expenses	\$73,067	\$68,058	\$55,290	\$69,464	\$84,676	\$85,265	\$80,801
Direct flight	49,149	46,110	37,755	46,964	n.a.	n.a.	n.a.
Other	23,918	21,948	17,535	22,500	n.a.	n.a.	n.a.
Operating profit or loss	\$8,757	-\$449	-\$4,834	-\$4,260	-\$8,196	-\$1,818	\$1,309

n.a. Not available.

¹ Includes \$355,000 distribution between "Other" transport and "Other than transport."

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Data from Civil Aeronautics Board.

No. 806. DOMESTIC AIR CARGO—REVENUE TON-MILES FLOWN, BY TYPE OF CARRIER: 1950 TO 1961

In thousands of ton-miles. Includes Alaska and Hawaii. For scheduled combination and all-cargo carriers, comprises express and freight ton-miles; for supplemental carriers, freight only]

YEAR	Total, all carriers	SCHEDULED PASSENGER CARGO CARRIERS			SCHEDULED ALL-CARGO CARRIERS ²			Supple- men- tal carriers ³
		Total	Sched- uled	Non- sched- uled ¹	Total	Sched- uled	Non- sched- uled ¹	
1950	239,288	154,760	152,223	2,537	71,415	58,420	12,095	13,113
1951	261,188	146,138	144,700	1,348	97,364	72,327	25,037	17,686
1952	250,302	162,600	162,047	553	86,447	81,829	4,618	10,255
1953	281,436	180,006	179,063	943	83,341	74,570	8,762	18,089
1954	277,368	191,304	189,765	1,539	82,355	58,091	4,264	23,709
1955	370,210	236,354	229,966	6,388	102,299	88,802	13,497	40,557
1956	450,549	265,324	247,255	18,069	132,419	103,911	28,508	58,806
1957	554,255	273,770	268,791	4,979	233,310	127,286	106,024	47,175
1958	566,810	296,916	294,018	2,808	208,584	92,716	115,868	61,310
1959	651,477	347,920	344,728	3,192	240,189	105,487	134,702	63,308
1960	723,670	389,438	386,933	2,505	222,262	80,566	132,696	111,970
1961	820,412	455,953	454,144	1,809	259,517	79,039	180,478	113,942

¹ Includes some military ton-miles and may include a small amount of international traffic.

² For periods prior to issuance of certificates, includes operations for only those noncertified carriers that were ultimately granted certificates.

³ Civil and military.

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Data from Civil Aeronautics Board.

Personnel—Shipments

589

No. 807. PERSONNEL OF DOMESTIC SCHEDULED AIR CARRIERS: 1940 TO 1961

[Includes Hawaii and, beginning 1960, Alaska. Beginning 1958, groups not strictly comparable with prior years because of change in reporting procedures]

TYPE OF PERSONNEL	1940	1950	1955	1957	1958	1959	1960	1961 ¹
Total.....	15,984	61,903	95,548	119,333	119,746	132,042	134,546	136,987
Pilots and copilots.....	1,039	5,785	8,721	11,430	11,287	12,175	11,579	11,741
Other flight personnel.....	18	776	1,721	3,135	3,092	3,370	3,156	3,234
Purser, stewards, stewardesses.....	914	3,372	5,919	7,939	8,262	9,080	8,937	9,926
Meteorologists and dispatchers.....	193	2,450	2,548	3,037	2,970	3,240	3,161	2,728
Mechanics.....	4,054	15,788	23,776	26,183	24,996	26,884	28,303	28,360
Other hangar and field personnel.....	1,880	9,822	15,872	29,406	30,454	35,643	35,704	36,120
Office employees.....	5,855	21,894	34,148	25,425	25,368	26,949	27,959	28,885
All others.....	1,131	2,016	2,843	12,808	13,317	14,692	15,747	15,893

¹ Includes certain personnel chargeable to international operations.

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Data from Civil Aeronautics Board.

No. 808. EMPLOYMENT, HOURS, AND EARNINGS IN AIRCRAFT INDUSTRIES—ANNUAL AVERAGES: 1948 TO 1961

ITEM	1948	1950	1955	1957	1958	1959	1960	1961
EMPLOYMENT¹ (1,000)								
Total.....	206.6	254.4	634.6	732.2	783.6	755.4	673.8	669.4
Aircraft.....	158.0	188.4	466.6	519.0	448.5	425.1	371.4	362.4
Aircraft engines and parts.....	48.6	57.0	168.0	213.2	184.3	182.0	170.5	182.5
Other aircraft parts and equipment ²	n.a.	n.a.	n.a.	n.a.	150.8	148.3	131.9	124.5
HOURS AND EARNINGS								
Average weekly hours:								
Aircraft industries.....	41.2	41.4	41.4	40.8	40.5	40.1	40.6	41.1
Aircraft engines and parts industries.....	40.5	41.7	40.6	40.7	39.7	41.1	41.1	41.5
Average weekly earnings:								
Aircraft industries.....	\$60.36	\$67.15	\$80.84	\$95.88	\$101.66	\$105.86	\$110.03	\$114.26
Aircraft engines and parts industries.....	\$61.52	\$69.31	\$86.48	\$95.65	\$58.05	\$108.50	\$112.20	\$116.62
Average hourly earnings:								
Aircraft industries.....	\$1.46	\$1.02	\$2.17	\$2.35	\$2.51	\$2.64	\$2.71	\$2.78
Aircraft engines and parts industries.....	\$1.52	\$1.66	\$2.13	\$2.35	\$2.51	\$2.64	\$2.73	\$2.81

n.a. Not available.

¹ Data for week ending nearest middle of month.

² Includes aircraft propellers and parts.

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Data from Department of Labor, Bureau of Labor Statistics.

No. 809. CIVIL AIRCRAFT SHIPMENTS: 1953 TO 1961

[Represents manufacturers' shipments of complete aircraft. Includes both domestic and export output]

CATEGORY	1953	1954	1955	1956	1957	1958	1959	1960	1961
Total.....	4,134	3,389	4,820	7,205	6,805	6,882	8,242	8,181	7,414
Transports.....	213	191	113	205	322	218	262	238	180
General aviation.....	3,611	3,072	4,563	6,765	6,173	6,478	7,802	7,726	6,943
Single-engine:									
1- to 3-place.....	753	527	786	957	1,190	1,012	1,649	1,366	2,159
4-place and over.....	2,928	2,190	2,969	4,758	4,060	4,597	5,136	5,072	3,721
Multiengine.....	130	355	808	1,050	923	869	1,017	1,288	1,063
Rotorcraft.....	110	126	144	235	310	186	178	217	291

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Includes data from Department of Commerce, Bureau of the Census.

No. 810. AIRCRAFT—VALUE OF BACKLOG ORDERS, NET NEW ORDERS, AND NET SALES: 1951 TO 1961

[In millions of dollars. Reported by manufacturers of complete aircraft, aircraft engines, and propellers]

YEAR	Back-log, Jan. 1	Net new orders ¹	Net sales	Back-log, Dec. 31	YEAR	Back-log, Jan. 1	Net new orders ¹	Net sales	Back-log, Dec. 31
1951	5,039	11,100	8,473	12,666	1961				
1952	12,666	11,482	6,495	17,653	Aircraft and parts: ³				
1953	17,653	7,611	8,511	16,753	U.S. military-----	4,150	2,875	2,945	4,080
1954	16,848	6,309	8,305	14,852	Other-----	2,037	1,092	1,442	1,087
1955	14,852	9,323	8,470	15,705	Aircraft engines and parts:				
1956	15,705	12,141	9,496	18,350	U.S. military-----	1,256	948	1,021	1,183
1957	18,350	7,947	11,766	14,531	Other-----	348	483	434	397
1958	14,531	10,110	11,470	13,171	Missiles and parts:				
1959	13,171	10,204	11,255	12,120	U.S. military-----	836	4,166	5,002	-----
1960	12,120	11,373	10,997	15,462	Other-----	7	205	212	-----
1961	15,462	213,428	14,954	13,936	Other products and services-----	6,828	3,659	3,898	6,589

¹ New orders received during year less terminations during year.

² Includes prime contracts of \$12,140 million and subcontracts of \$1,288 million.

³ Includes propellers and propeller parts.

Source: Federal Aviation Agency. Data from Department of Commerce, Bureau of the Census; published in *Current Industrial Reports*.

No. 811. EXPORTS OF AIRCRAFT AND AIRCRAFT PARTS AND ACCESSORIES: 1957 TO 1961

[Value in thousands of dollars. See also *Historical Statistics, Colonial Times to 1957*, series Q 340-350, for total number and value of civil aircraft]

ITEM	1957		1958		1959		1960		1961	
	Number of units	Value								
Aircraft, parts, and accessories-----	1,028,729		971,541		769,130		1,329,487		1,208,763	
Civil aircraft-----	2,025	248,943	1,689	204,051	1,628	152,984	2,336	597,120	2,456	334,786
Aircraft 3,000 pounds airframe weight and over-----	470	231,496	313	188,463	215	131,470	304	506,721	305	295,025
Transports, new-----	204	180,651	127	146,436	65	107,619	159	480,126	118	262,648
3,000-14,999 pounds-----	94	7,669	36	3,478	23	2,251	57	6,711	64	7,702
15,000-29,999 pounds-----	9	6,855	9	5,597	3	1,757	10	9,094	4	3,523
30,000 pounds and over-----	101	166,127	82	137,361	39	103,611	92	464,321	50	251,323
Rotary-wing aircraft, new-----	58	10,005	41	8,640	25	6,248	12	3,905	7	1,390
Used and rebuilt aircraft, including converted-----	208	40,840	145	33,887	125	17,003	133	22,630	180	31,087
Aircraft under 3,000 pounds airframe weight-----	1,555	17,447	1,376	15,588	1,413	21,514	2,032	30,405	2,151	30,761
Utility aircraft, new-----	1,086	13,141	896	12,108	1,033	14,500	1,528	23,592	1,645	27,526
3-place and under-----	368	2,552	268	2,177	394	3,541	374	2,996	582	4,325
4-place and over-----	718	10,589	628	9,931	639	10,950	1,154	20,506	1,063	23,201
Rotary-wing aircraft, new-----	46	1,902	26	924	38	1,936	70	3,738	112	5,450
Aircraft, new, not elsewhere classified-----	4	5	4	125	6	2,873	3	22	80	3,072
Used and rebuilt aircraft, including converted-----	419	2,399	450	2,431	336	2,205	431	3,053	314	2,807
Air-cooled reciprocating engines, new-----	1,516	3,860	1,552	4,312	948	2,448	1,464	3,716	1,575	4,398
Other aircraft, parts, and accessories ¹ -----		775,926		763,178		613,698		788,646		809,579

¹ Includes military aircraft, new engines 400 hp. and over, parts, and accessories.

Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Data from Department of Commerce, Bureau of the Census.

Aircraft—Airports

591

No. 812. CIVIL AIRCRAFT, AIRPORTS, AND FEDERAL-AID AIRPORT PROGRAM—
STATES AND OTHER AREAS: 1961

[As of December 31, except as noted]

STATE OR OTHER AREA	CIVIL AIRCRAFT ¹		AIRPORTS AND AIRFIELDS ²			FEDERAL-AID AIRPORT PROGRAM ⁴ (\$1,000)		
	Total	Active	Total	General	Limited ³	Total	Federal funds	Sponsor funds
	117,904	82,853	7,715	3,274	4,441	1,198,106	578,481	619,625
Alabama.....	1,215	896	85	44	41	17,192	8,589	8,603
Alaska.....	2,367	1,506	373	228	145	18,733	13,299	5,434
Arizona.....	1,905	1,332	133	51	82	18,071	9,482	8,589
Arkansas.....	1,467	1,016	97	50	47	8,623	4,259	4,364
California.....	15,680	10,578	448	218	230	110,318	51,331	58,987
Colorado.....	1,700	1,219	98	40	58	18,066	9,051	9,015
Connecticut.....	884	589	82	24	58	8,791	4,379	4,412
Dé Delaware.....	355	265	17	10	7	1,149	577	572
District of Columbia.....	570	372	2	1	1			
Florida.....	4,681	2,931	168	108	60	40,442	19,495	20,947
Georgia.....	1,736	1,286	121	56	65	25,256	12,670	12,577
Hawaii.....	213	108	38	8	30	25,931	8,071	17,860
Idaho.....	1,071	750	172	34	138	5,506	3,054	2,452
Illinois.....	5,739	4,050	272	116	156	73,453	34,100	39,353
Indiana.....	3,213	2,378	140	97	43	21,377	10,333	11,044
Iowa.....	2,255	1,784	190	75	115	18,029	8,905	9,124
Kansas.....	2,758	2,003	220	81	139	8,821	4,332	4,489
Kentucky.....	890	650	40	26	14	19,013	9,258	9,755
Louisiana.....	1,943	1,315	155	51	104	33,842	15,408	18,434
Maine.....	564	381	133	39	94	4,876	2,411	2,465
Maryland.....	1,086	725	63	32	31	11,945	5,887	6,058
Massachusetts.....	1,612	1,088	109	58	51	27,197	13,209	13,988
Michigan.....	4,344	3,157	216	123	93	46,224	21,757	24,647
Minnesota.....	3,098	2,330	244	88	156	33,768	16,733	17,035
Mississippi.....	1,387	924	79	41	38	9,678	4,815	4,863
Missouri.....	2,796	2,052	186	72	114	33,660	16,516	17,144
Montana.....	1,418	1,054	170	46	124	7,270	3,910	3,360
Nebraska.....	1,789	1,373	179	58	121	12,428	6,181	6,247
Nevada.....	707	497	64	23	41	12,838	7,205	5,633
New Hampshire.....	323	218	33	18	15	2,348	1,172	1,176
New Jersey.....	2,364	1,587	112	62	50	22,762	9,836	12,926
New Mexico.....	1,364	1,013	100	39	61	7,193	4,007	3,186
New York.....	5,556	3,729	305	135	170	86,586	37,689	48,897
North Carolina.....	1,972	1,317	113	59	54	15,455	7,683	7,772
North Dakota.....	1,019	701	162	30	132	5,568	2,772	2,796
Ohio.....	4,996	3,545	359	146	213	50,423	24,497	25,936
Oklahoma.....	2,469	1,796	137	65	72	27,079	13,568	13,511
Oregon.....	2,209	1,598	156	50	106	16,365	8,356	8,009
Pennsylvania.....	3,874	2,754	427	138	289	69,625	33,108	36,517
Rhode Island.....	205	138	13	8	5	6,183	3,010	3,173
South Carolina.....	715	541	78	35	43	5,398	2,704	2,694
South Dakota.....	1,168	873	83	31	52	4,005	2,125	1,880
Tennessee.....	1,335	990	66	45	21	29,295	14,660	14,635
Texas.....	9,801	7,038	588	210	378	65,718	32,289	33,429
Utah.....	761	546	66	30	36	13,528	7,492	6,036
Vermont.....	182	128	28	9	19	1,779	885	894
Virginia.....	1,402	944	94	53	41	15,449	7,522	7,927
Washington.....	2,885	1,956	189	68	121	22,562	10,068	11,394
West Virginia.....	625	499	53	27	26	13,428	6,553	6,875
Wisconsin.....	2,272	1,665	170	81	89	25,526	12,447	13,079
Wyoming.....	684	500	69	23	46	4,295	2,438	1,857
Other areas.....	280	171	20	14	6	15,039	7,964	7,075

¹ Includes gliders.² Includes military airports with joint civil and military use. Airport type definitions: General use—airports serving as regular, alternate, or provisional stops for scheduled and large irregular carriers; non-air-carrier airports offering a minimum of services such as fuel and regular attendant during normal working hours; and airports operating seasonally which qualify under above definition. Limited use—airports available to public but not equipped to offer minimum services. Restricted use—use by general public prohibited except in case of forced landing or by previous arrangement.³ Includes restricted use airports, seaplane bases, and heliports.⁴ Cumulative since enactment of Federal Airport Act, May 16, 1946, through Dec. 31, 1961.Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*.

No. 813. PETROLEUM PIPELINE COMPANIES—SUMMARY OF SELECTED FINANCIAL DATA: 1930 TO 1961

[In thousands of dollars, except miles of line operated. Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 342, for miles of line operated]

YEAR	Miles of line operated	Investment in carrier property	Other investments	Total current assets	Pipeline operating revenues	Pipeline operating expenses	Pipeline operating income	Net income
1930	88,727	772,711	96,184	133,428	237,910	99,363	121,816	123,741
1935	92,037	763,009	119,071	46,949	197,368	80,364	79,586	78,249
1940	100,156	841,977	64,095	47,163	225,700	101,919	82,558	79,857
1943	108,783	965,464	39,891	107,501	276,652	148,448	62,620	61,302
1944	111,615	1,000,741	62,767	104,150	310,194	172,368	67,840	65,715
1945	113,351	1,042,523	86,713	115,370	304,268	191,668	67,127	65,941
1946	116,544	1,106,454	69,991	103,819	293,723	183,869	56,485	56,094
1947	119,298	1,225,168	56,455	126,621	325,224	214,682	54,415	53,145
1948	124,092	1,381,402	52,168	168,020	377,034	252,971	58,806	56,079
1949	124,984	1,497,570	78,285	175,458	376,452	249,368	63,282	57,743
1950	128,589	1,655,973	100,798	192,291	441,627	254,701	89,047	81,303
1951	131,457	1,821,880	70,011	232,851	523,973	290,144	91,265	82,006
1952	132,715	2,064,405	107,412	322,677	562,268	310,311	111,053	96,650
1953	133,900	2,311,885	95,970	301,185	591,186	324,935	128,943	109,046
1954	138,962	2,501,330	67,451	315,731	617,463	331,834	149,845	124,409
1955	140,374	2,585,565	80,679	322,762	677,605	346,985	176,257	153,334
1956	142,686	2,716,234	82,453	307,633	737,386	370,787	188,272	178,457
1957	145,236	2,843,034	75,912	364,258	729,952	386,661	182,392	159,197
1958	144,354	2,948,598	194,855	347,369	720,670	389,678	190,748	161,838
1959	149,159	3,196,909	128,608	383,973	765,232	400,140	211,276	182,815
1960	151,968	3,299,501	113,504	368,028	770,417	417,640	198,911	189,398
1961	153,737	3,406,830	92,398	422,146	786,718	419,854	214,616	180,698

Source: Interstate Commerce Commission; annual reports, *Statistics of Oil Pipe-Line Companies*, and, beginning 1955, *Transport Statistics in the United States*, Part 6.

No. 814. PETROLEUM PIPELINES—OIL TRANSPORTED: 1950 TO 1961

[Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 343-344, for oil originated]

ITEM	1950	1955	1957	1958	1959	1960	1961
Number of companies	76	84	82	82	85	87	89
Mileage operated	128,589	140,374	145,236	144,354	149,159	151,968	153,737
Gathering lines	47,593	50,645	52,077	49,787	49,567	49,401	49,566
Trunk lines	80,996	89,729	93,159	94,507	99,592	102,567	104,081
Oil transported (million bbls.):							
Total received into system	2,766	4,058	4,485	4,318	4,665	4,783	4,941
From connecting carriers	944	1,434	1,635	1,543	1,634	1,636	1,639
Crude oil	879	1,299	1,470	1,361	1,423	1,402	1,402
Refined oils	65	134	165	182	211	234	237
Originated	1,822	2,624	2,850	2,775	3,031	3,147	3,302
Crude oil	1,525	2,038	2,183	2,018	2,182	2,239	2,336
Refined oils	297	586	668	757	849	909	966
Total delivered out of system	2,740	4,039	4,472	4,317	4,659	4,783	4,923
To connecting carriers	937	1,444	1,590	1,509	1,624	1,639	1,646
Crude oil	874	1,329	1,447	1,345	1,403	1,400	1,392
Refined oils	63	115	143	165	221	240	254
Terminated	1,803	2,595	2,883	2,867	3,035	3,144	3,277
Crude oil	1,510	1,992	2,195	2,034	2,201	2,253	2,331
Refined oils	293	603	688	773	834	891	946
Trunk-line movement (million bbls.):							
Crude oil	1,977	2,781	3,056	2,947	3,038	3,091	3,108
Refined oils	360	717	876	935	1,055	1,124	1,191
Trunk-line barrel-miles (billions):							
Crude oil	577	839	931	905	980	976	996
Refined oils	107	205	248	260	284	304	317

Source: Interstate Commerce Commission; annual reports, *Statistics of Oil Pipe-Line Companies*, and, beginning 1955, *Transport Statistics in the United States*, Part 6.

Section 23

Waterways, Water Traffic, and Shipping

This section presents statistics concerning water transportation, including inland waterways and oceanborne commerce, the merchant marine, cargo and vessel tonnages, and shipbuilding. The principal sources of these data are the annual *Waterborne Commerce of the United States* and the *Annual Report of the Chief of Engineers*, Part 2, issued by the Corps of Engineers of the Department of the Army; the monthly and annual *U. S. Waterborne Foreign Trade*, issued by the Bureau of the Census; and the annual *Merchant Marine Statistics*, issued by the Bureau of Customs. Data in this field are also presented in *A Statistical Analysis of the World's Merchant Fleets*, issued periodically by the Maritime Administration of the Department of Commerce; *The Bulletin*, issued monthly by the American Bureau of Shipping; and the *Annual Summary of Merchant Ships Launched in the World* and the *Register Book* published by Lloyd's Register of Shipping, London, England. A basic source for historical data is *Foreign Commerce and Navigation of the United States*, issued annually through 1946 by the Bureau of the Census.

Data relating to merchandise exports and imports, their classification, dollar values, and countries of origin and destination are in section 32, Foreign Commerce and Aid.

Units of measurement.—Cargo tonnage and shipping weight both represent the gross weight of the cargo including the weight of containers, wrappings, crates, etc. Other tonnage figures generally refer to stowing capacity of vessels, 100 cubic feet being called 1 ton. Gross tonnage comprises the space within the frames and the ceiling of the hull, together with those closed-in spaces above deck available for cargo, stores, passengers, or crew, with certain minor exceptions. Net or registered tonnage is the gross tonnage less the spaces occupied by the propelling machinery, fuel, crew quarters, master's cabin, and navigation spaces. It represents substantially space available for cargo and passengers. The net tonnage capacity of a ship may bear little relation to weight of cargo. Dead-weight tonnage is the weight in long tons required to depress a vessel from light water line (that is, with only the machinery and equipment on board) to load line. It is therefore the weight of the cargo, fuel, etc., which a vessel is designed to carry with safety.

Vessel shipments, entrances, and clearances.—Shipments by dry cargo vessels comprise shipments on all types of watercraft except tanker vessels; shipments by tanker vessels comprise all types of cargo, liquid and dry, carried by tanker vessels.

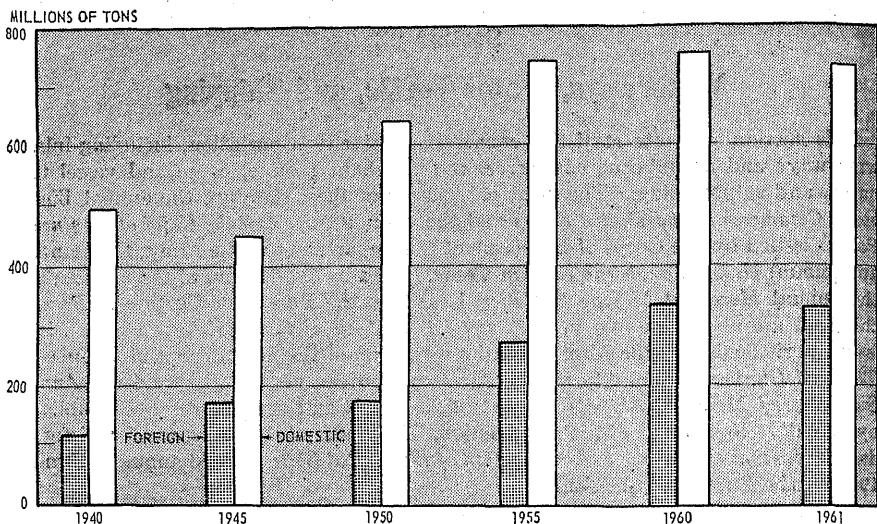
A vessel is reported as entered at the first port which it enters in the United States, regardless of whether any cargo is unladen at that port. A vessel is reported as cleared from the last port where outward cargo is completed or where the vessel cleared in ballast. Army and Navy vessels entering or clearing without commercial cargo and vessels touching at a United States port in distress, or for other temporary causes without discharging cargo, are not included in the figures.

Alaska and Hawaii.—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

FIG. XXXVIII. WATERBORNE COMMERCE OF THE UNITED STATES: 1940 TO 1961

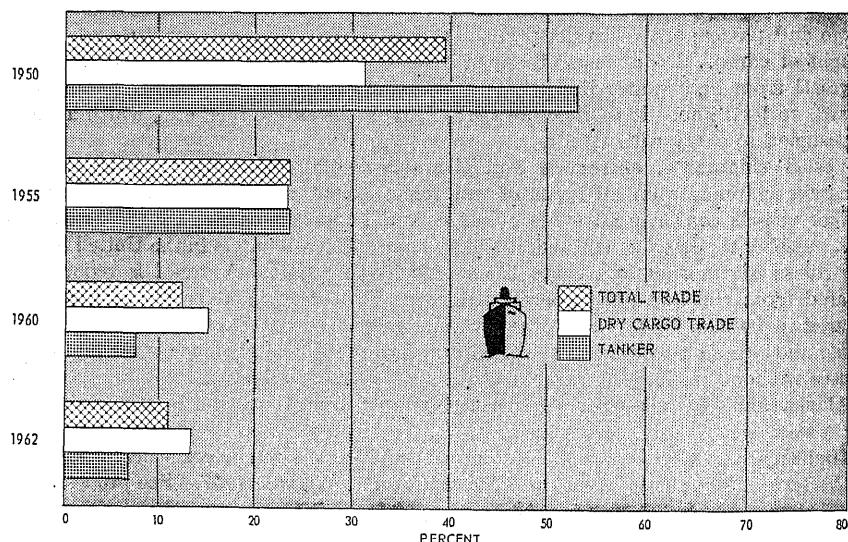
[See table 815]



Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from Department of the Army, Corps of Engineers.

FIG. XXXIX. PERCENT OF CARGO TONNAGE ON U.S. FLAG VESSELS IN THE U.S. FOREIGN TRADE: 1945 TO 1962

[See table 817]



Source: Department of Commerce, Bureau of the Census.

Cargo Tonnage—International Transportation

595

No. 815. WATERBORNE COMMERCE, FOREIGN AND DOMESTIC—CARGO TONNAGE: 1940 TO 1961

[In thousands of short tons. Includes Alaska, Hawaii, and outlying areas. Import and export figures differ slightly from those shown in tables 817 and 818, due to minor differences in basic concepts which are explained in the source. See also *Historical Statistics, Colonial Times to 1957*, series Q 216-229.]

CLASS	1940	1945	1950	1955	1957	1959	1960	1961
Net total, foreign and domestic	607,900	618,906	820,584	1,016,136	1,131,401	1,052,402	1,099,850	1,062,155
Foreign commerce, total	111,255	172,094	169,225	271,103	358,539	325,670	339,277	329,330
Imports, through seaports	40,740	44,526	96,299	144,276	176,236	198,608	195,466	188,179
Exports, through seaports	49,568	100,333	43,640	95,404	146,890	91,629	104,810	105,959
Imports, Great Lakes ports	4,118	6,511	5,683	8,681	10,116	14,878	12,851	11,986
Exports, Great Lakes ports	16,829	20,724	23,603	22,742	25,298	20,555	23,150	23,205
Domestic commerce, net total ¹	496,645	446,812	651,359	745,033	772,862	726,732	760,573	732,825
Coastwise, between ports	157,027	90,705	182,644	195,718	196,419	205,509	209,197	206,899
Great Lakes, between ports	141,103	157,900	169,881	184,809	182,150	131,220	155,109	136,841
Local traffic of seaports, Great Lakes ports, and inland waterways ports	97,632	97,822	106,906	112,863	110,824	106,747	104,193	93,929
Traffic between ports and river ports ²	70,217	87,073	190,789	249,693	281,066	282,269	291,057	294,052
Traffic between ports of outlying areas of the United States ³			1,239	1,951	2,403	4,987	1,017	1,104

¹ For 1940 and 1945, approximate net total, excluding duplications in domestic traffic.

² Represents traffic among ports and communities mainly utilizing inland waterways.

³ Included in other types of domestic traffic prior to 1950.

⁴ Traffic confined to the States of Alaska and Hawaii transferred to other traffic categories as appropriate.

Source: Department of the Army, Corps of Engineers; figures through 1950, *Annual Report of Chief of Engineers*, Part 2; thereafter, *Waterborne Commerce of the United States*.

No. 816. UNITED STATES RECEIPTS AND PAYMENTS FOR INTERNATIONAL TRANSPORTATION: 1947 TO 1962

[In millions of dollars. Includes Alaska and Hawaii. Data are international transportation transactions recorded for balance of payments purposes (see table 1190). Receipts include freight on exports carried by U.S. operated carriers and foreign carrier expenditures in U.S. ports. Payments include freight on imports carried by foreign carriers and U.S. carrier port expenditures abroad. Freight on exports carried by foreign carriers is excluded since such payments are directly or indirectly for foreign account. Similarly, freight on U.S. imports carried by U.S. carriers is a domestic rather than an international transaction. Minus sign (—) denotes decrease. See also *Historical Statistics, Colonial Times to 1957*, series U 170 and U 177, for totals.]

ITEM	1947	1950	1955	1957	1958	1959	1960	1961	1962 (prel.)
Total receipts	1,738	1,033	1,420	1,987	1,638	1,646	1,705	1,685	1,842
Ocean transportation	1,593	859	1,151	1,628	1,283	1,224	1,272	1,224	1,353
Export freight earnings	1,154	380	448	639	420	359	428	389	405
Privately controlled shipments:									
Coal	257	1	26	32	8	5	n.a.	n.a.	n.a.
Grain	67	23	44	70	52	39	n.a.	n.a.	n.a.
Other dry cargo	608	311	365	504	361	309	n.a.	n.a.	n.a.
Tanker	29	12	12	33	8	6	n.a.	n.a.	n.a.
Military-controlled shipments ¹	193	33	1						
Freight earnings on shipments between foreign countries	100	110	106	179	130	140	136	147	183
Passenger fares	39	20	23	24	24	20	19	19	10
Port expenditures	281	313	562	766	692	698	681	661	740
Charter hire	19	36	12	20	8	7	8	8	15
Other transportation	145	174	269	339	355	422	433	461	489
Total payments	583	818	1,204	1,569	1,636	1,759	1,988	1,991	2,069
Ocean transportation	456	643	946	1,217	1,247	1,299	1,406	1,430	1,459
Import freight payments	141	295	480	717	743	812	910	870	867
Dry cargo	133	255	358	517	545	674	n.a.	n.a.	n.a.
Tanker	8	40	122	200	198	138	n.a.	n.a.	n.a.
Passenger fares	47	121	138	133	166	183	212	207	201
Port expenditures	231	138	153	203	170	155	167	227	241
Charter hire	37	89	175	164	168	149	117	126	150
Other transportation	127	175	258	352	389	460	582	561	610
Receipts balance	1,155	215	216	398	2	-113	-283	-306	-227

n.a. Not available.

¹ Represents freight on economic aid only. Freight on military end items not included.

Source: Department of Commerce, Office of Business Economics; *Balance of Payments Statistical Supplement*, 1963 edition, a supplement to the *Survey of Current Business*; *Survey of Current Business*, June 1961, March 1962, and records.

No. 817. WATERBORNE IMPORTS AND EXPORTS—CARGO TONNAGE, BY FLAG OF CARRIER VESSEL: 1935 TO 1962

[In thousands of short tons.] Prior to 1946, excludes cargoes (small in aggregate) carried by ships of less than 100 tons gross capacity. Beginning 1950, excludes U.S. Army and Navy cargo, and includes Alaska, Hawaii, and Puerto Rico. Beginning July 1950, excludes commodities classified for security reasons as "special category." For 1955 and beginning July 1956, exports exclude shipments under \$500 in value regardless of shipping weight; for January through June 1956, exclude those under \$1,000 regardless of shipping weight. For 1955 and 1957, imports exclude shipments under 2,000 pounds shipping weight regardless of value, as well as shipments valued at less than \$100 regardless of shipping weight. Beginning 1958, imports exclude only those shipments valued at less than \$100 regardless of shipping weight. See also *Historical Statistics, Colonial Times to 1957*, series Q 210-215]

YEAR	Total trade	Percent by U.S. flag	IMPORTS BY FLAG OF CARRIER VESSELS				EXPORTS BY FLAG OF CARRIER VESSELS			
			Total	U.S.	Foreign	Percent U.S.	Total	U.S.	Foreign	Percent U.S.
TOTAL										
1935	80,765	31.7	38,042	15,820	22,221	41.6	42,723	9,789	32,935	22.9
1940	105,596	28.7	44,667	17,322	27,345	38.8	60,929	12,939	47,990	21.2
1945 ¹	101,030	68.4	39,426	31,415	8,011	79.7	61,603	37,729	23,874	61.2
1950	159,389	39.3	96,703	42,268	54,435	43.7	62,685	20,379	42,306	32.5
1955	253,919	23.5	141,123	37,409	103,715	26.5	112,796	22,144	90,652	19.6
1957	337,826	18.8	172,030	34,558	137,472	20.1	165,706	29,092	136,704	17.5
1958	290,353	13.5	175,605	20,628	154,977	11.7	114,748	18,686	96,062	16.3
1959	308,762	11.9	200,481	19,219	181,262	9.5	108,281	17,724	90,557	16.3
1960	322,717	12.3	198,830	19,627	179,203	9.9	123,887	20,133	103,754	16.3
1961	315,406	10.6	187,887	15,155	172,732	8.1	127,519	18,411	109,108	14.4
1962	345,029	11.0	210,840	18,372	192,408	8.7	134,189	19,637	114,552	14.6
DRY CARGO										
1945 ¹	63,083	70.9	21,716	17,053	4,663	78.5	41,307	27,672	13,695	66.9
1950	100,189	31.2	46,611	14,823	31,788	31.8	53,578	16,429	37,149	30.7
1955	169,231	23.2	68,437	19,855	48,582	29.0	100,794	19,762	81,032	19.6
1957	229,544	19.6	86,868	19,607	67,261	22.6	142,676	25,306	117,280	17.8
1958	184,504	16.2	79,942	13,602	66,340	17.0	104,652	16,381	84,311	15.6
1959	194,966	15.6	98,515	14,679	83,836	14.9	96,461	15,870	80,581	16.4
1960	202,497	15.2	94,931	13,813	81,118	14.6	107,506	16,980	90,586	15.8
1961	196,004	13.7	84,185	10,904	73,281	13.0	111,819	16,002	95,817	14.3
1962	218,635	13.4	98,737	12,374	86,363	12.5	119,898	16,951	102,947	14.1
TANKER CARGO										
1945 ¹	37,947	64.4	17,711	14,362	3,349	81.1	20,236	10,058	10,170	49.7
1950	59,199	53.0	50,092	27,445	22,647	54.8	9,107	3,950	5,157	43.4
1955	84,688	23.5	72,086	17,554	55,133	24.2	12,002	2,382	9,620	19.8
1957	108,282	17.2	85,162	14,951	70,211	17.6	23,120	3,697	19,423	16.0
1958	105,760	8.9	95,664	7,026	88,638	7.3	10,096	2,345	7,751	23.2
1959	113,796	5.6	101,966	4,540	97,426	4.5	11,830	1,854	9,976	15.7
1960	120,219	7.5	103,898	5,814	98,084	5.6	10,321	3,153	13,168	19.3
1961	119,402	5.6	103,702	4,251	99,451	4.1	15,700	2,409	13,291	15.3
1962	126,394	6.9	112,103	5,998	106,105	5.4	14,291	2,686	11,605	18.8

¹ Excludes U.S. Army and Navy cargo, and Great Lakes.

No. 818. WATERBORNE IMPORTS AND EXPORTS—CARGO TONNAGE, BY COASTAL DISTRICT: 1945 TO 1962

[In thousands of short tons. See headnote, table 817]

DISTRICT	1945	1950	1955	1957	1958	1959	1960	1961	1962
IMPORTS									
Atlantic ports	30,748	70,062	105,900	123,151	125,366	137,612	135,313	125,349	139,706
Gulf ports	5,075	10,930	17,345	21,920	26,288	28,241	27,304	26,948	30,152
Pacific ports	3,003	4,095	9,088	16,840	16,071	19,906	23,281	23,621	25,322
Great Lakes ports		5,616	8,751	10,119	7,880	14,822	12,932	11,971	15,660
EXPORTS									
Atlantic ports	39,609	15,228	54,906	83,947	55,648	41,478	44,902	44,454	47,378
Gulf ports	14,737	16,818	22,500	39,057	27,674	31,394	36,730	40,053	43,562
Pacific ports	7,258	7,270	13,394	18,579	14,089	14,897	19,351	20,050	18,235
Great Lakes ports		23,370	21,996	24,213	17,336	20,512	22,905	22,963	25,015

Source of tables 817 and 818: Department of Commerce, Bureau of the Census; *Foreign Commerce and Navigation of the United States*, releases, and records.

Imports

597

No. 819. WATERBORNE IMPORTS—SHIPPING WEIGHT ON DRY-CARGO AND TANKER VESSELS, BY TRADE AREA: 1960 TO 1962

[In thousands of short tons. Represents general imports. See headnote, table 817.]

TRADE AREA	1960			1961			1962		
	Total	On U.S. vessels	Percent U.S.	Total	On U.S. vessels	Percent U.S.	Total	On U.S. vessels	Percent U.S.
DRY CARGO									
Trade area	94,931	13,813	15	84,185	10,904	13	98,737	12,374	13
Foreign except Canadian	70,784	10,231	15	60,961	7,989	13	66,244	7,953	12
Caribbean	32,897	2,409	7	27,125	2,194	8	29,387	1,815	6
East Coast South America	3,718	804	22	3,136	791	25	3,455	833	24
West Coast South America	9,704	2,343	24	7,072	1,093	16	7,581	1,270	17
West Coast Central America and Mexico	1,751	260	15	1,929	260	14	1,784	228	13
Gulf Coast Mexico	1,414	160	11	1,573	65	4	1,030	1	(1)
United Kingdom and Eire	1,260	360	29	1,047	288	28	1,207	331	27
Baltic, Scandinavia, Iceland, and Greenland	1,528	85	6	1,442	73	5	1,680	80	5
Bayonne-Hamburg Range	4,809	401	8	4,596	350	8	5,313	398	8
Portugal and Spanish Atlantic	306	50	13	344	58	17	355	60	17
Azores, Mediterranean, and Black Sea	1,914	443	23	1,679	419	25	2,009	444	22
West Coast Africa	2,262	290	13	1,924	324	17	1,978	267	14
South and East Africa	1,672	658	39	1,695	596	35	1,856	670	36
Australia	503	188	32	760	188	25	1,148	204	18
India, Persian Gulf, and Red Sea	1,511	480	32	1,169	330	28	1,156	342	30
Malaya and Indonesia	473	209	44	460	206	45	511	210	41
South China, Taiwan, and Philippines	2,742	529	19	3,033	336	11	3,044	315	10
North China, including Shang-hai and Japan	2,142	563	26	1,077	414	21	2,739	486	18
Canadian	24,147	3,582	15	23,225	2,915	13	32,493	4,421	14
Pacific Canada	3,302	573	17	3,508	400	11	3,599	408	11
Great Lakes Canada	7,959	2,306	29	7,137	2,339	33	8,302	3,301	40
Atlantic Canada and Newfoundland	12,887	703	6	12,579	176	1	20,502	711	4
TANKER CARGO									
Trade area	103,898	5,814	6	103,702	4,251	4	112,103	5,998	5
Foreign except Canadian	103,416	5,699	6	103,421	4,157	4	111,637	5,944	5
Caribbean	78,357	5,207	7	76,520	3,582	5	83,487	5,014	6
East Coast South America	119	—	—	405	—	—	309	—	—
West Coast South America	37	—	—	65	—	—	149	—	—
West Coast Central America and Mexico	42	7	17	271	112	41	474	76	16
Gulf Coast Mexico	1,279	—	—	2,646	—	—	3,697	—	—
United Kingdom and Eire	57	—	—	94	—	—	162	—	—
Baltic, Scandinavia, Iceland, and Greenland	13	—	—	19	—	—	99	—	—
Bayonne-Hamburg Range	186	—	—	272	—	—	206	—	—
Portugal and Spanish Atlantic	—	—	—	12	12	100	—	—	—
Azores, Mediterranean, and Black Sea	3,940	22	1	3,187	5	(1)	3,011	36	1
West Coast Africa	—	—	—	50	—	—	123	—	—
South and East Africa	—	—	—	78	—	—	(1)	(2)	—
Australia	—	—	—	—	—	—	—	—	—
India, Persian Gulf, and Red Sea	15,016	378	3	15,941	438	3	15,973	753	5
Malaya and Indonesia	4,126	68	2	3,404	—	—	3,713	50	1
South China, Taiwan, and Philippines	34	17	50	—	—	—	36	—	—
North China, including Shang-hai and Japan	210	—	—	308	8	2	240	—	—
Canadian	483	114	24	282	94	33	416	54	13
Pacific Canada	379	95	25	182	80	44	133	31	23
Great Lakes Canada	101	18	18	45	14	31	49	19	39
Atlantic Canada and Newfoundland	2	2	100	54	—	—	233	4	2

¹ Less than 0.5 percent.

² Less than 500 short tons.

Source: Department of Commerce, Bureau of the Census; current summary reports, FT 985, *Waterborne Foreign Trade Statistics*.

No. 820. WATERBORNE EXPORTS—SHIPPING WEIGHT ON DRY-CARGO AND TANKER VESSELS, BY TRADE AREA: 1960 TO 1962

[In thousands of short tons. Covers domestic and foreign merchandise. See headnote, table 817]

TRADE AREA	1960			1961			1962		
	Total	On U.S. vessels	Percent U.S.	Total	On U.S. vessels	Percent U.S.	Total	On U.S. vessels	Percent U.S.
DRY CARGO									
Trade area	107,566	16,980	16	111,819	16,002	14	119,898	16,951	14
Foreign except Canadian	87,601	13,705	16	92,011	13,816	15	98,501	14,234	15
Caribbean	3,655	645	18	2,678	408	15	2,850	488	17
East Coast South America	3,603	509	14	4,573	1,074	24	4,668	946	20
West Coast South America	1,732	538	31	1,962	746	38	1,711	590	35
West Coast Central America and Mexico	257	79	31	284	60	21	265	61	23
Gulf Coast Mexico	387	4	1	376	9	2	403	6	2
United Kingdom and Eire	7,129	1,015	14	5,306	510	10	6,304	374	6
Baltic, Scandinavia, Iceland, and Greenland	4,538	594	13	3,319	164	5	3,457	183	5
Bayonne-Hamburg Range	19,829	1,355	7	18,073	842	5	24,034	691	3
Portugal and Spanish Atlantic	989	208	21	1,393	275	20	1,478	160	11
Azores, Mediterranean, and Black Sea	14,343	2,277	16	17,548	3,434	20	19,263	3,035	16
West Coast Africa	700	264	37	1,206	593	47	1,263	564	45
South and East Africa	684	356	52	626	387	62	674	453	67
Australasia	1,182	206	17	876	140	17	1,051	141	13
India, Persian Gulf, and Red Sea	6,581	2,901	44	5,305	2,317	43	6,480	3,584	55
Malaya and Indonesia	465	189	41	530	187	35	678	274	40
South China, Taiwan, and Philippines	2,181	963	44	2,551	986	39	2,328	938	40
North China, including Shanghai and Japan	10,216	1,604	8	25,277	1,674	7	21,595	1,749	8
Canadian	19,965	3,275	16	19,808	2,186	11	21,397	2,716	13
Pacific Canada	258	57	22	222	41	19	341	67	20
Great Lakes Canada	18,092	3,146	17	15,908	2,065	13	16,827	2,464	15
Atlantic Canada and Newfoundland	1,616	72	5	3,678	80	2	4,220	185	4
TANKER CARGO									
Trade area	16,321	3,153	19	15,700	2,409	15	14,291	2,686	19
Foreign except Canadian	15,140	2,587	17	14,869	1,901	13	13,447	2,205	16
Caribbean	431	36	8	479	27	6	327	51	16
East Coast South America	920	379	41	746	295	40	293	-----	-----
West Coast South America	119	-----	-----	32	-----	-----	37	-----	-----
West Coast Central America and Mexico	53	-----	-----	4	-----	-----	2	-----	-----
Gulf Coast Mexico	17	9	53	9	-----	-----	12	-----	-----
United Kingdom and Eire	877	-----	-----	715	-----	-----	638	-----	-----
Baltic, Scandinavia, Iceland, and Greenland	885	488	55	513	263	51	651	215	33
Bayonne-Hamburg Range	4,839	10	(1)	5,212	-----	-----	3,787	-----	-----
Portugal and Spanish Atlantic	178	51	29	145	37	26	212	18	9
Azores, Mediterranean, and Black Sea	1,045	424	41	2,125	690	33	2,293	934	41
West Coast Africa	30	2	7	18	5	28	145	73	50
South and East Africa	86	-----	-----	81	-----	-----	109	-----	-----
Australasia	145	26	18	176	32	18	211	49	23
India, Persian Gulf, and Red Sea	2,141	1,148	54	1,316	478	36	1,518	785	52
Malaya and Indonesia	26	-----	-----	47	-----	-----	27	-----	-----
South China, Taiwan, and Philippines	40	-----	-----	64	-----	-----	54	5	9
North China, including Shanghai and Japan	3,809	13	(1)	3,100	74	2	3,130	76	2
Canadian	1,180	566	48	831	508	61	844	481	57
Pacific Canada	639	402	63	569	404	71	581	394	68
Great Lakes Canada	413	164	40	196	95	49	167	69	41
Atlantic Canada and Newfoundland	128	-----	-----	67	8	12	96	18	19

¹ Less than 0.5 percent.

Exports and Imports

599

No. 821. WATERBORNE EXPORTS AND IMPORTS—VALUE OF TRADE, BY COASTAL DISTRICT: 1959 TO 1961

[In millions of dollars. Includes trade of Alaska, Hawaii, and Puerto Rico with foreign countries]

TYPE OF VESSEL AND DISTRICT	TOTAL TRADE			EXPORTS			IMPORTS		
	1959	1960	1961	1959	1960	1961	1959	1960	1961
	22,388	24,304	24,279	10,776	13,164	13,635	11,612	11,140	10,644
Total.....	22,388	24,304	24,279	10,776	13,164	13,635	11,612	11,140	10,644
Atlantic.....	14,216	14,784	14,616	6,081	6,991	7,168	8,135	7,793	7,448
Dry cargo.....	12,934	13,498	13,343	6,011	6,897	7,094	6,923	6,601	6,249
Tanker.....	1,281	1,286	1,273	69	94	74	1,212	1,192	1,199
Gulf.....	4,270	5,075	5,155	2,882	3,739	3,908	1,388	1,336	1,247
Dry cargo.....	3,849	4,393	4,415	2,542	3,135	3,249	1,307	1,258	1,166
Tanker.....	421	681	740	340	603	659	81	78	81
Pacific.....	2,856	3,307	3,245	1,246	1,755	1,768	1,610	1,552	1,477
Dry cargo.....	2,580	2,962	2,889	1,151	1,632	1,651	1,429	1,330	1,238
Tanker.....	276	344	355	95	123	110	181	221	236
Great Lakes.....	1,047	1,140	1,262	568	681	790	479	459	472
Dry cargo.....	1,001	1,076	1,201	531	625	738	470	451	463
Tanker.....	47	65	61	38	56	52	9	9	9

Source: Department of Commerce, Bureau of the Census; *United States Foreign Waterborne Commerce*, annual review.

No. 822. WATERBORNE EXPORTS AND IMPORTS—SHIPPING WEIGHT OF PRINCIPAL COMMODITIES IN OCEANBORNE TRADE: 1960 AND 1961

[In thousands of short tons. Includes trade of Alaska, Hawaii, and Puerto Rico with foreign countries. Export data exclude shipments of under \$500 in value. Import data exclude shipments of under \$100 in value. "N.e.c." means not elsewhere classified]

COMMODITY	1960	1961	COMMODITY	1960	1961
	EXPORTS	IMPORTS		EXPORTS	IMPORTS
Bituminous coal and lignite.....	24,904	23,856	Crude petroleum.....	56,245	53,679
Wheat.....	14,550	17,584	Residual fuel oil.....	37,893	39,183
Iron and steel scrap.....	5,660	7,638	Iron ore and concentrates.....	29,604	21,048
Corn.....	4,694	6,136	Aluminum ores and concentrates.....	10,578	11,348
Phosphate rock.....	4,079	3,830	Gypsum or plaster rock.....	5,261	4,900
Soybeans, inedible.....	3,417	3,144	Sugar.....	4,702	4,211
Lubricating oils and greases.....	2,297	2,444	Petroleum products, n.e.c.....	3,333	3,783
Residual fuel oil.....	3,021	2,266	Iron and steel mill products.....	3,274	2,953
Wheat flour and semolina.....	1,888	1,950	Manganese.....	2,742	2,313
Iron and steel mill products.....	2,320	1,755	Gas oil and distillate fuel oil.....	1,268	2,303
Grain, sorghums.....	2,619	1,747	Bananas.....	1,970	1,888
Sulphur.....	1,908	1,697	Coffee, raw or green.....	1,475	1,487
Cotton, unmanufactured.....	1,886	1,654	Standard newsprint paper.....	1,425	1,478
Logs.....	456	1,443	Pulpwood.....	1,104	1,418
Barley and rye.....	1,560	1,385	Chrome.....	1,428	1,394
Coke, including petroleum coke.....	987	1,270	Molasses, inedible.....	2,547	1,369
Wood pulp.....	1,108	1,132	Lumber and shingles.....	1,338	1,313
Iron ore and concentrates.....	948	997	Jet fuels.....	581	1,304
Chemical specialties, n.e.c.....	881	930	Petroleum asphalt.....	1,155	1,178
Inedible animal products, n.e.c.....	888	900	Nitrogenous fertilizer.....	616	806
Rice.....	1,094	898	Salt.....	655	713
Industrial chemicals, n.e.c.....	853	897	Sulphur.....	659	685
Gas oil and distillate fuel oil.....	1,221	895	Industrial chemicals, n.e.c.....	553	600
Animal feeds, n.e.c.....	743	828	Non-metallic minerals and manufac-		
Paper and manufactures, n.e.c.....	703	820	tures, n.e.c.....	896	533
			Pigments, paints, and varnishes.....	514	504

Source: Department of Commerce, Bureau of the Census; *United States Foreign Waterborne Commerce*, annual review.

No. 823. COMMERCE OF SELECTED UNITED STATES PORTS: 1961

[In thousands of short tons (cargo). Excludes Great Lakes. In addition to commerce shown here, many ports have (a) commerce with ports on internal rivers and canals; (b) purely local port traffic]

PORT	Im- ports	Ex- ports	COASTWISE		PORT	Im- ports	Ex- ports	COASTWISE	
			Re- ceipts	Ship- ments				Re- ceipts	Ship- ments
Total ¹	188,179	105,959	206,816	206,867	GULF COAST PORTS				
ATLANTIC COAST PORTS					Charlotte Harbor, Fla....	97	307	120	862
Portland Harbor, Maine, N. H.....	11,965	136	2,998	350	Tampa Harbor, Fla.....	891	4,106	5,125	1,329
Salem Harbor, Mass.....	619	(2)	654	-----	Port St. Joe Harbor, Fla., Fla.....	16	1,623		
Boston, Mass.....	329	-----	1,222	123	Panama City Harbor, Fla.....	80	192	165	4
New Bedford and Fair- haven Harbor, Mass.....	6,435	1,024	10,123	861	Pensacola Harbor, Fla.....	103	71	19	12
Fall River Harbor, Mass.....	50	3	116	3	Mobile Harbor, Ala.....	5,274	1,468	225	1,648
Providence River and Harbor, R. I.....	448	2	1,008	53	New Orleans, La.....	4,398	10,620	1,102	13,715
New London Harbor, Conn.....	978	145	6,000	561	Baton Rouge, La.....	4,246	3,882	197	8,741
New Haven Harbor, Conn.....	538	(2)	332	131	Lake Charles, La. ³	122	796	1,082	7,407
Bridgeport Harbor, Conn.....	441	100	5,623	1,065	Galveston, Tex.....	145	4,754	151	111
Norwalk Harbor, Conn.....	-----	101	1,411	359	Tex City, Tex.....	110	251	304	7,381
Stamford Harbor, Conn.....	-----	-----	675	1	Houston, Tex.....	2,787	7,434	1,058	25,728
Port of New York, N. Y., and N. J.....	34,670	6,919	45,465	12,679	Corpus Christi, Tex.....	3,114	1,900	94	8,085
Hempstead Harbor, N. Y.....	-----	-----	1,570	3,242	Harbor Island, Tex.....	1,232	(2)		5,156
Huntington Harbor, N. Y.....	-----	-----	439	-----	Freeport Harbor, Tex.....	1	177	23	2,193
Port Jefferson Harbor, N. Y.....	-----	-----	1,544	26	Brazos Island Harbor, Tex.....	1,615	305	23	1,701
Port of Albany, N. Y.....	734	447	3,566	-----	Beaumont, Tex.....	260	1,452	952	18,484
Delaware River and tributaries.....	40,307	3,368	26,724	7,786	Port Arthur, Tex.....	74	2,602	2,075	16,424
Baltimore Harbor and Channels, Md.....	15,185	4,541	7,573	1,520	PACIFIC COAST PORTS				
Norfolk Harbor, Va.....	2,718	18,511	6,029	3,622	San Diego Harbor, Calif., Long Beach Harbor, Calif.....	356	136	1,420	9
Port of Newport News, Va.....	1,261	7,113	49	1,310	Los Angeles Harbor, Calif.....	2,565	2,803	584	2,098
Morehead City Harbor, N. C.....	182	70	180	12	San Francisco Bay Area, Calif.....	6,517	2,967	4,260	6,701
Port of Wilmington, N. C.....	509	243	3,014	2	Crescent City Harbor, Calif.....	5,943	4,704	13,146	9,598
Charleston Harbor, S. C.....	1,401	477	2,275	151	Humboldt Harbor and Bay, Calif.....	(2)	129	208	45
Savannah Harbor, Ga.....	1,822	654	1,276	241	Stockton, Calif.....	144	1,643	78	234
Jacksonville Harbor, Fla.....	2,193	378	3,421	187	Coos Bay, Oreg.....	(2)	431	242	548
Palm Beach Harbor, Fla.....	271	42	-----	Portland, Oreg.....	647	2,741	5,279	229	
Port Everglades Har- bor, Fla.....	1,170	151	3,123	118	Astoria, Oreg.....	15	178	59	50
Miami Harbor, Fla.....	309	120	287	57	Vancouver, Wash.....	32	865	182	35
San Juan Harbor, P. R.....	1,952	57	1,333	830	Longview, Wash.....	130	1,359	204	123
Mayaguez Harbor, P. R.....	36	8	124	102	Tacoma Harbor, Wash.....	499	1,194	495	156
Ponce Harbor, P. R.....	85	15	175	441	Seattle Harbor, Wash.....	815	1,170	3,267	604
					Bellingham Bay and Harbor, Wash.....	907	154	27	25
					Port Angeles Harbor, Wash.....	200	101	152	15
					Seward Harbor, Alaska.....	-----	-----	526	102
					Honolulu Harbor, Hawaii, Hawaiian Harbor, Maui, Hawaii.....	265	95	2,612	1,289
					Hilo Harbor, Hawaii.....	3	14	242	435
					Nawiliwili Harbor, Hawaii.....	6	4	317	405
						5	3	99	316

¹ Includes data for ports not shown separately.

² Less than 500 tons.

³ Includes Calcasieu River and Pass.

Source: Department of the Army, Corps of Engineers; *Waterborne Commerce of the United States*.

No. 824. COMMERCE OF SELECTED GREAT LAKES PORTS: 1950 TO 1961

[In thousands of short tons (cargo). Comprises foreign, lakewise, and coastwise shipping]

PORT	RECEIPTS				SHIPMENTS			
	1950	1955	1960	1961	1950	1955	1960	1961
Total.....	175,637	193,591	168,043	148,911	193,511	207,588	178,287	160,079
Ashland Harbor, Wis.....	685	451	404	279	5,422	4,527	1,170	1,180
Ashtabula, Ohio.....	10,447	9,455	7,773	5,441	3,302	3,586	2,450	2,091
Buffalo, N.Y., Port of.....	16,458	19,318	15,595	14,013	2,417	2,436	1,226	1,085
Chicago, Ill., Port of.....	15,813	16,872	12,303	10,974	4,093	6,249	8,411	7,979
Cleveland, Ohio.....	17,375	19,744	17,113	16,448	382	358	511	615
Conneaut Harbor, Ohio.....	9,562	14,139	6,570	1,269	2,522	994	688	644
Detroit, Mich., Port of.....	21,090	24,295	25,334	22,781	1,298	1,026	1,892	1,826
Duluth-Superior, Minn., and Wis.....	10,117	7,142	5,155	4,159	53,009	61,156	37,512	27,214
Indiana Harbor, Ind.....	10,355	13,695	12,116	12,241	5,182	6,386	7,059	7,137
Lorain Harbor, Ohio.....	8,153	5,503	5,036	4,387	3,264	2,258	1,659	1,374
Milwaukee Harbor, Wis.....	7,357	7,157	6,861	6,536	1,421	1,532	1,647	1,831
Sandusky Harbor, Ohio.....	1	1	38	39	9,822	7,961	6,616	4,574
Toledo Harbor, Ohio.....	4,640	6,504	5,870	5,753	29,307	28,710	27,815	27,928
Two Harbors (Agate Bay), Minn.....	216	99	-----	-----	18,948	18,004	15,206	11,418
All other.....	43,308	49,156	47,875	44,591	53,122	60,705	65,465	63,183

Source: Department of the Army, Corps of Engineers; 1950, *Annual Report of the Chief of Engineers*, Part 2; thereafter, *Waterborne Commerce of the United States*.

No. 825. FREIGHT CARRIED ON INLAND WATERWAYS, BY SYSTEM: 1940 TO 1961

[In millions of ton-miles. Excludes Alaska and Hawaii, except as noted]

SYSTEM	1940	1945	1950	1955	1960	1961
Total.....	118,057	142,737	163,344	216,508	220,253	209,706
Atlantic coast rivers.....	1,860	1,036	6,497	27,042	28,583	27,251
Gulf coast rivers.....	593	345	1,229	13,860	16,932	17,766
Pacific coast rivers.....	1,229	1,555	1,686	4,736	6,001	5,523
Mississippi River System ¹	13,934	19,595	33,598	52,019	69,257	72,326
Other waterways ²	10	9	8	5	12	21
Canals and connecting channels ³	4,787	7,168	8,630	-----	-----	-----
Great Lakes System.....	95,645	113,028	111,687	118,845	99,408	86,810

¹ Comprises main channels and all tributaries of the Mississippi, Illinois, Missouri, and Ohio Rivers.

² Beginning 1960, includes Alaskan waterways.

³ Except Great Lakes. Beginning 1955, distributed by inland waterway system.

Source: Department of the Army, Corps of Engineers; through 1950, *Annual Report of the Chief of Engineers*, Part 2; thereafter, *Waterborne Commerce of the United States*.

No. 826. FREIGHT CARRIED ON GREAT LAKES SYSTEM: 1961

[In thousands of ton-miles]

AREA	Total	DOMESTIC				FOREIGN	
		Lakewise	Coast-wise	Internal	Local and intraport	Canadian	Overseas
Total.....	86,819,421	66,778,888	56,425	567,032	92,502	14,085,887	5,238,687
Lake Superior.....	23,004,248	19,864,909	-----	-----	108	2,598,356	630,875
St. Marys River.....	4,435,254	3,084,335	-----	-----	2	646,875	103,542
Lake Michigan, including Port of Chicago ¹	16,752,616	14,550,675	1,171	461,551	72,951	1,112,691	553,577
Lake Huron.....	19,362,135	15,755,302	2,159	2,450	1,625	2,735,256	865,343
St. Clair River, including channels in Lake St. Clair.....	4,735,156	3,820,328	660	509	1,530	687,577	215,552
Detroit River.....	2,635,983	2,122,682	2,037	2,241	1,904	373,719	133,400
Lake Erie, including upper Niagara River.....	11,460,175	6,880,163	25,857	39,905	14,381	3,368,689	1,131,180
Welland Canal.....	542,993	10,456	3,310	7,830	-----	376,750	144,038
Lake Ontario, including lower Niagara River.....	2,421,545	66,886	17,949	46,057	1	1,431,484	855,268
St. Lawrence River, between International Boundary Line and Lake Ontario.....	1,379,316	13,652	3,282	5,589	-----	754,481	602,312

¹ Comprises Chicago Harbor, North Branch, South Branch, Sanitary Ship Canal, Calumet-Sag Channel, Lake Calumet, Calumet Harbor and River.

Source: Department of the Army, Corps of Engineers; *Waterborne Commerce of the United States*.

No. 827. FREIGHT CARRIED ON MISSISSIPPI RIVER SYSTEM: 1940 TO 1961

[Net traffic. Comprises main channels and all tributaries of the Mississippi, Illinois, Missouri, and Ohio Rivers]

YEAR	TRAFFIC IN SHORT TONS (1,000)					TRAFFIC IN TON-MILES (1,000,000)				
	Total	Inland	Coast-wise	Foreign		Total	Inland	Coast-wise	Foreign	
				Imports	Exports				Imports	Exports
1940-----	88,080	73,174	9,001	3,157	3,649	18,934	11,578	1,523	385	447
1945-----	95,543	82,081	4,954	3,114	5,394	19,505	17,738	849	340	668
1950-----	138,145	114,697	13,877	4,395	5,176	33,598	30,282	2,074	599	643
1955-----	194,363	163,760	16,060	6,296	8,248	52,019	47,418	2,473	1,646	1,082
1956-----	212,818	179,257	16,567	7,303	9,691	56,786	51,733	2,508	1,232	1,312
1957-----	227,028	188,214	17,643	8,536	12,635	60,710	54,769	2,734	1,459	1,749
1958-----	209,881	172,582	16,996	10,475	9,828	59,208	53,443	2,507	1,811	1,446
1959-----	223,950	183,909	19,146	10,424	10,471	65,721	59,565	2,811	1,732	1,614
1960-----	233,959	188,098	21,994	11,284	12,584	69,257	62,367	3,184	1,821	1,884
1961-----	240,220	190,968	23,900	10,477	14,173	72,326	64,840	3,453	1,803	2,150

¹ Includes 702 thousand tons and 79 million ton-miles, respectively, of foreign commerce classified as "Through traffic." In earlier years, similar traffic was included in "Imports" and "Exports."

No. 828. COMMERCE ON SELECTED RIVERS, CANALS, AND CONNECTING CHANNELS: 1940 TO 1961

[In thousands of short tons (cargo). Excludes general ferry traffic and nonregulated car ferry traffic]

WATERWAY	1940	1945	1950	1955	1960	1961
RIVERS						
Hudson River, N. Y. (Mouth of Spuyten Duyvill Creek to Waterford, N. Y.)-----						
11,516	5,747	14,574	20,203	19,062	18,305	
Delaware River, Philadelphia, Pa., to Trenton, N. J.-----	4,410	4,261	7,086	11,010	14,019	13,842
Delaware River, Philadelphia, Pa., to the sea-----	27,658	20,558	69,283	86,754	98,824	94,030
Potomac River below Washington, D. C.-----	3,016	1,936	2,402	3,796	4,378	4,640
James River, Va.-----	2,649	1,409	3,663	5,197	5,186	5,624
Wilmington Harbor, N. C.-----	1,2,785	1,1,169	4,022	4,693	5,168	4,796
Black Warrior, Warrior, and Tombigbee Rivers, Ala.-----	1,890	1,492	2,603	4,221	5,804	6,031
San Joaquin River, Calif.-----	1,049	1,220	1,495	2,414	4,467	4,072
Columbia and Lower Willamette Rivers below Vancouver, Wash., and Portland, Oreg.-----	15,028	16,635	18,578	10,826	21,867	22,861
Columbia River from Vancouver, Wash., to The Dalles, Oreg.-----	1,884	1,417	2,845	3,216	4,340	4,268
Willamette River above Portland and Yamhill River, Oreg.-----	3,067	2,877	3,948	4,290	4,065	4,173
Illinois Waterway, Ill.-----	5,729	6,591	16,421	21,363	26,920	26,601
Mississippi River, Minneapolis, Minn., to the Passes-----	32,372	43,960	66,923	94,042	128,348	130,388
Allegheny River, Pa.-----	3,029	2,416	3,504	4,722	3,833	4,382
Monongahela River, Pa. and W. Va.-----	29,560	26,556	28,510	37,618	29,533	26,764
Kanawha River, W. Va.-----	4,499	4,499	6,388	7,644	10,080	10,510
Ohio River, Pittsburgh to mouth-----	29,549	33,868	48,508	71,461	79,478	80,138
Cumberland River, Tenn. and Ky.-----	852	814	1,647	2,878	2,815	2,838
Tennessee River, Tenn., Ala., and Ky.-----	2,207	2,163	3,051	9,975	12,441	11,615
FEDERAL CANALS AND CONNECTING CHANNELS						
Cape Cod Canal, Mass.-----	7,901	14,684	13,625	13,388	12,135	10,733
Inland Waterway from Delaware River to Chesapeake Bay, Del. and Md.-----	3,795	3,600	7,298	9,151	8,809	8,830
Lake Charles Deep Water Channel, La.-----	8,601	10,288	12,164	14,901	19,483	20,407
Gulf Intracoastal Waterway, Apalachicola Bay, Fla., to the Mexican border-----	11,643	23,045	31,520	41,370	54,948	58,867
Sabine-Neches Waterway, Tex.-----	38,433	26,318	48,385	56,234	68,693	67,700
Port Aransas (Aransas Pass) Corpus Christi Waterway, Tex.-----	14,180	13,074	21,132	24,330	24,840	26,760
Detroit River, Mich.-----	18,294	127,045	127,292	132,507	111,165	96,186
St. Marys Falls Canal, Mich.-----	89,360	112,983	106,140	114,649	89,699	78,942
Grays Reef Passage, Mich.-----	5,962	4,905	6,045	5,399	5,230	5,201
STATE CANALS						
New York State Barge Canal-----	4,768	2,909	4,616	4,616	3,415	3,224
Innerharbor Navigation Canal, La.-----	2,087	1,430	2,338	3,834	6,004	5,807

¹ Reported as "Cape Fear River at and below Wilmington, N.C."

Source of tables 827 and 828: Department of the Army, Corps of Engineers; through 1950, *Annual Report of the Chief of Engineers*, Part 2; thereafter, *Waterborne Commerce of the United States*.

Panama Canal—Vessels Entered and Cleared

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No. 829. COMMERCIAL TRAFFIC THROUGH THE PANAMA CANAL, 1940 TO 1962, AND BY NATIONALITY OF VESSEL, 1962

[For years ending June 30. Comprises oceangoing tolls-paying vessels and foreign naval vessels of 300 net tons and over (Panama Canal measurement) for vessels rated on net tonnage, or 500 tons displacement and over for vessels rated on displacement tonnage. See also *Historical Statistics, Colonial Times to 1957*, series Q 235-237]

YEAR	Number of transits	Net tonnage ¹ (1,000)	Tolls (\$1,000)	Tons of cargo (1,000 long tons)	NATIONALITY OF VESSEL, 1962	Number of transits	Net tonnage ¹ (1,000)	Tolls (\$1,000)	Tons of cargo (1,000 long tons)
1940	5,370	24,144	21,145	27,299	Belgium	50	263	214	169
1941	4,727	20,643	18,158	24,951	Chile	124	746	664	874
1942	2,688	11,010	9,752	13,607	China (Taiwan)	83	467	420	632
1943	1,822	8,234	7,357	10,600	Colombia	269	1,000	908	446
1944	1,562	6,073	5,456	7,003	Denmark	314	1,749	1,550	1,633
					Ecuador	47	180	163	48
1945	1,939	8,381	7,244	8,604	France	132	885	787	948
1946	3,747	17,517	14,774	14,978	Germany	1,094	4,622	4,011	3,316
1947	4,260	20,233	17,597	21,671	Great Britain	1,276	9,108	8,017	8,494
1948	4,678	22,902	19,987	24,118	Greece	771	5,234	4,540	7,338
1949	4,793	23,473	20,541	25,305	Honduras	83	242	200	117
					Israel	69	396	339	307
1950	5,448	28,013	24,430	28,872	Italy	220	1,431	1,271	1,440
1951	5,503	27,180	23,906	30,073	Japan	844	4,958	4,443	4,713
1952	6,524	30,674	26,923	33,611	Liberia	848	5,139	4,405	7,290
1953	7,410	36,670	31,918	36,095	Netherlands	558	2,942	2,595	2,905
1954	7,784	38,028	33,248	39,095	Norway	1,491	9,953	8,591	11,111
					Panama	393	1,546	1,312	1,826
1955	7,997	38,568	33,849	40,646	Peru	126	379	358	568
1956	8,209	41,203	36,154	45,119	Philippines	70	403	417	317
1957	8,579	43,628	38,444	49,702	Sweden	339	1,993	1,753	1,852
1958	9,187	47,924	41,796	48,125	United States	1,783	10,901	9,650	10,351
1959	9,718	52,154	46,529	51,153	All other	165	773	682	890
1960	10,795	58,802	50,939	59,258					
1961	10,866	61,826	54,128	63,670					
1962	11,149	65,379	57,290	67,525					

¹ Panama Canal net.

Source: Panama Canal Company; *Annual Report*.

No. 830. VESSELS ENTERED AND CLEARED IN FOREIGN TRADE—NET REGISTERED TONNAGE, CUSTOMS DISTRICTS: 1955 TO 1962

[In thousands of net tons. Excludes domestic trade]

CUSTOMS DISTRICT AND TONNAGE	1955	1956	1957	1958	1959	1960	1961	1962
ENTERED								
North Atlantic Coast	71,159	80,959	87,616	79,266	76,304	75,820	75,032	80,068
With cargo	57,844	61,856	64,865	65,628	68,870	66,589	64,879	69,143
South Atlantic Coast	6,000	6,414	6,957	7,350	8,586	8,827	8,307	9,000
With cargo	5,292	5,551	5,092	6,688	7,845	7,808	7,303	8,099
Gulf Coast	17,434	20,629	24,022	22,233	22,532	27,022	30,237	32,224
With cargo	11,795	12,570	13,777	15,409	15,822	15,616	15,661	16,886
South Pacific Coast	0,582	11,562	13,049	13,391	15,277	17,148	18,200	18,654
With cargo	7,647	9,566	11,492	11,415	13,477	15,007	15,332	16,675
North Pacific Coast	6,385	7,170	8,453	8,235	9,154	10,133	9,851	9,861
With cargo	4,395	4,465	5,061	6,105	7,089	7,551	6,981	7,152
Great Lakes	14,597	17,077	16,781	12,806	16,369	16,937	17,503	19,728
With cargo	4,631	5,542	4,500	5,133	7,771	7,771	9,761	
Puerto Rico, Alaska, Hawaii, and Virgin Islands	3,247	4,027	5,148	5,817	5,992	6,809	7,326	8,739
With cargo	2,678	3,423	4,301	4,976	5,207	5,963	6,369	7,940
CLEARED								
North Atlantic Coast	71,240	80,274	85,947	79,032	76,923	80,842	79,127	83,496
With cargo	58,903	45,294	49,515	39,982	35,216	35,510	35,964	37,868
South Atlantic Coast	5,846	6,281	7,197	7,135	7,415	8,612	8,759	9,275
With cargo	3,635	4,000	4,485	4,444	4,582	5,121	5,362	5,227
Gulf Coast	17,289	20,805	24,402	22,240	24,109	25,218	27,235	29,823
With cargo	13,320	16,779	19,950	16,287	17,063	18,825	20,385	22,825
South Pacific Coast	11,172	12,941	14,817	14,226	15,502	18,007	18,616	18,843
With cargo	10,598	11,067	11,504	11,381	12,765	14,602	14,485	14,127
North Pacific Coast	5,060	6,219	7,710	7,123	8,367	9,444	9,473	9,180
With cargo	4,130	5,007	6,157	5,189	5,046	6,023	7,415	7,068
Great Lakes	14,561	16,878	16,624	12,714	16,244	16,387	17,583	19,623
With cargo	11,831	13,558	13,654	10,366	11,882	13,106	13,791	15,020
Puerto Rico, Alaska, Hawaii, and Virgin Islands	4,200	4,872	5,882	6,846	6,046	7,654	8,085	8,714
With cargo	3,077	3,138	3,768	3,741	3,736	3,491	3,663	3,920

Source: Department of Commerce, Bureau of the Census; current summary reports, FT 975 *Vessel Entrances and Clearances*.

No. 831. VESSELS ENTERED AND CLEARED IN FOREIGN TRADE—NET REGISTERED TONNAGE, BY CLASSES: 1936 TO 1962

[In thousands of net tons, except number of vessels and percentages. Includes Alaska, Hawaii, and Puerto Rico. Excludes domestic trade. See also *Historical Statistics, Colonial Times to 1957*, series Q 192-203]

YEARLY AVERAGE OR YEAR	ALL PORTS				SEAPORTS ¹						
	Number of vessels	All vessels			All vessels			With cargo			
		Total tonnage	U.S.	Foreign	Percent U.S.	Total tonnage	U.S.	Foreign	Total tonnage	U.S.	Foreign
ENTERED											
1936-1940	33,954	67,117	19,243	47,873	28.7	55,521	16,090	39,432	41,951	13,865	28,086
1941-1945	38,997	67,994	34,658	33,336	51.0	52,620	30,059	22,560	28,995	16,877	12,118
1946-1950	48,813	87,462	46,205	41,257	52.8	75,094	42,168	32,926	50,288	26,318	23,970
1951-1955	48,082	114,990	39,459	75,531	34.3	100,657	35,345	65,313	78,407	26,759	51,049
1956-1960	51,874	155,388	31,118	124,251	20.0	139,375	26,938	112,436	110,023	21,884	88,139
1953	47,802	112,559	39,319	73,240	34.9	97,344	34,960	62,375	79,410	26,704	52,016
1954	45,651	109,624	33,860	75,664	30.9	97,198	30,133	67,065	82,234	25,167	57,087
1955	48,415	128,405	34,321	94,084	26.7	113,807	30,407	83,400	89,552	25,331	64,220
1956	52,999	147,844	36,247	111,598	25.5	130,767	31,254	99,514	97,442	26,224	71,218
1957	55,308	162,925	35,898	127,027	22.0	146,144	31,101	114,954	105,487	24,028	80,569
1958	48,455	149,097	26,842	122,255	18.0	136,201	29,642	112,648	110,280	10,806	90,474
1959	51,287	154,213	26,417	127,796	17.1	137,845	21,897	115,947	118,370	18,510	99,880
1960	51,375	162,765	30,189	132,675	18.5	145,828	26,708	119,119	118,539	19,955	98,584
1961	47,828	166,548	31,144	135,404	18.7	148,955	26,260	120,688	116,525	18,779	97,746
1962	49,515	178,334	33,774	144,560	18.9	158,606	29,903	128,648	125,297	10,978	105,319
CLEARED											
1936-1940	32,706	68,541	19,448	49,098	28.4	56,967	16,302	40,665	46,126	13,116	33,009
1941-1945	38,195	71,792	37,283	34,509	51.9	56,304	32,585	23,718	45,147	26,377	18,770
1946-1950	45,135	87,190	44,942	42,244	51.5	74,889	40,933	33,953	54,584	29,510	25,073
1951-1955	45,324	115,447	39,533	75,914	34.2	101,213	35,531	65,682	68,396	25,407	42,089
1956-1960	49,079	156,376	31,157	125,210	19.9	140,408	27,018	113,478	85,273	19,791	65,481
1953	44,757	112,935	39,188	73,747	34.7	97,627	34,775	62,852	64,880	24,786	40,103
1954	42,966	109,399	33,579	76,321	30.6	97,674	29,969	67,706	61,561	10,670	41,883
1955	46,642	129,308	34,407	94,961	26.6	114,806	30,615	84,102	73,003	20,703	52,900
1956	50,735	148,269	36,317	111,952	24.5	131,391	31,510	99,881	85,285	21,202	64,023
1957	52,637	162,578	35,118	127,460	21.6	145,954	30,560	115,385	95,379	22,007	73,312
1958	46,115	148,816	26,449	122,366	18.0	136,102	23,324	112,778	81,024	18,711	62,313
1959	49,608	155,505	26,623	128,883	17.1	139,202	22,042	117,221	80,208	18,269	61,639
1960	49,809	166,715	31,280	135,434	18.8	149,778	27,649	122,127	84,470	18,653	65,817
1961	46,354	168,878	31,941	136,936	18.9	151,295	29,062	122,233	87,273	18,952	68,321
1962	47,537	178,953	34,165	144,788	19.1	159,330	30,337	128,903	91,036	10,648	71,388

¹ Comprises all ports except northern border ports.

Source: Department of Commerce, Bureau of the Census; *Foreign Commerce and Navigation of the United States*, and current summary reports, FT 975, *Vessel Entrances and Clearances*.

No. 832. FEDERAL EXPENDITURES FOR CIVIL FUNCTIONS OF THE CORPS OF ENGINEERS, U.S. ARMY: 1940 TO 1962

In thousands of dollars. For years ending June 30. Includes Alaska, Hawaii, and outlying areas. Represents funds actually expended under the direction of the Chief of Engineers for maintenance and improvement of rivers and harbors, flood control, and other miscellaneous works]

YEAR	Amount	YEAR	Amount	YEAR	Amount
1940	213,889	1948	380,615	1956	556,724
1941	220,734	1949	572,830	1957	666,433
1942	198,041	1950	634,534	1958	718,532
1943	222,053	1951	620,581	1959	806,427
1944	175,580	1952	597,102	1960	868,573
1945	134,216	1953	635,512	1961	938,082
1946	168,957	1954	539,687	1962	964,964
1947	269,380	1955	511,587		

Source: Department of the Army, Corps of Engineers.

Employees—Wage Scale

605

No. 833. EMPLOYEES IN GOVERNMENT AND PRIVATE SHIPYARDS: 1940 TO 1962

[In thousands. Annual average employment in establishments primarily engaged in building and repairing all types of ships, barges, canal boats, and lighters of 5 gross tons and over, whether propelled by sail or motor power or towed by other craft]

YEAR	Total	Private yards ¹	Navy yards ²	YEAR	Total	Private yards ¹	Navy yards ²
1940	180	103	78	1956	212	110	102
1945	1,034	742	292	1957	225	127	98
1950	146	72	74	1958	218	123	95
1951	223	102	121	1959	211	117	93
1952	268	134	133	1960	204	112	92
1953	255	131	124	1961	211	116	95
1954	218	108	110	1962	210	116	94
1955	208	101	107				

¹ Includes all full- and part-time employees who worked during or received pay for any part of the pay period ending nearest the 15th of the month. Data have been adjusted to March, 1959 benchmark levels indicated by data from Government social insurance programs.

² Includes Curtis Bay Coast Guard yard (Md.).

Source: Department of Labor, Bureau of Labor Statistics. Current data published monthly in *Employment and Earnings*.

No. 834. EMPLOYMENT ON U.S. FLAG MERCHANT VESSELS: 1935 TO 1962

[As of June 30, except as indicated. Estimates of personnel employed on U. S. merchant ships, 1,000 gross tons and over. Excludes vessels on inland waterways, Great Lakes, and those owned by, or operated for, the United States Army and Navy, and special types such as cable ships, tugs, etc.]

DATE	Employment	DATE	Employment	DATE	Employment
1935	56,150	1950	61,550	1961: Mar. 31	48,972
1940	49,810	1951	84,300	June 30	130,930
1941	51,280	1952	79,650	Sept. 30	46,130
1942	47,410	1953	72,750	Dec. 31	48,461
1943 (June 20)	75,000	1954	63,850		
1944 (June 20)	125,290	1955	57,507	1962: Mar. 31	244,533
1945 (June 20)	158,860	1956	57,102	June 30	47,346
1946 (June 20)	120,050	1957	61,059	Sept. 30	46,308
1947 (Dec. 20)	110,820	1958	51,515	Dec. 31	242,541
1948	80,250	1959	50,223		
1949	71,970	1960	49,153		

¹ Employment affected by Maritime strike, Atlantic, Gulf, and Pacific Coast ports.

² Employment affected by unlicensed seamen's strike, Pacific Coast ports.

³ Employment affected by Longshoremen's strike, Atlantic and Gulf Coast ports.

Source: Department of Commerce, Maritime Administration; records.

No. 835. BASIC WAGE SCALE FOR ABLE-BODIED SEAMEN: 1935 TO 1963

[Represents basic wage, over and above subsistence (board and room), paid to seamen having qualifying experience and employed on U.S. flag merchant vessels. Excludes overtime and fringe pay benefits]

MONTH ESTABLISHED	Monthly wage rate	AREA AND MONTH ESTABLISHED	Monthly wage rate	AREA AND MONTH ESTABLISHED	Monthly wage rate
In effect, Jan. 1, 1935	\$56.00				
1940—January	72.50	1953—June	\$314.41	1953—June	\$314.41
1941—February	90.00	1956—June	333.27	1954—October	302.00
1942—January	100.00	1957—June	353.27	1955—November	423.00
1945—October	145.00				
1946—April	162.50				
June	172.50	1960—January	369.17	1956—October	453.00
1947—February	182.85	1961—June	383.94	1957—October	478.00
October	197.50	1962—June	392.58	1960—October	511.50
1948—March	210.00	In effect, June 16, 1963	401.41	1961—October	521.50
December	226.00			In effect, Jan. 1, 1963	521.50
1950—September	248.50				
1951—October	288.00				
1952—April	302.40				

¹ Seamen on both coasts receive extra pay for Saturdays and Sundays at sea. Beginning November 1955, West Coast incorporated this extra pay into base wages but East Coast did not.

Source: Department of Commerce, Maritime Administration; records.

Waterways, Water Traffic, and Shipping

[Dead-weight tonnage in thousands. As of June 30, except as indicated. Covers seagoing vessels of 1,000 gross tons and over engaged in foreign and domestic trade, and inactive vessels. Excludes special types and vessels employed on Great Lakes.]

YEAR AND TYPE OF VESSEL	ACTIVE VESSELS										SPECIAL SERVICES		
	Domestic trade					Foreign trade					TEMPORARILY INACTIVE	RESERVE FLEET	Number Tons
	Coastwise		Intercoastal		Noncontiguous	Total		Tons		Number Tons			
ALL VESSELS	Number Tons	Number Tons	Number Tons										
1940	1,300	11,019	1,118	9,643	425	3,749	633	5,893	500	4,172	122	1,189	71
Combination	140	873	112	696	66	514	46	182	36	120	1	8	9
Cargo	6,020	641	4,882	2,433	350	2,438	188	988	100	1,033	53	45	45
Tanker	370	4,126	365	4,065	379	3,273	276	3,054	102	1,485	9	70	70
1945 (Sept. 30)	4,852	50,263	2,332	25,399	1,890	20,592	442	4,807	297	3,480	54	563	91
Combination	117	800	25	165	15	127	10	120	101	728	33	561	10
Cargo	3,829	36,675	1,833	18,110	1,607	16,200	226	1,910	206	2,858	196	2,751	1
Tanker	906	12,755	474	7,122	268	4,264	206	4,264	206	624	9	101	55
1950	3,408	36,526	1,145	13,828	711	8,353	434	5,474	279	3,716	87	1,131	68
Combination	83	639	651	417	445	389	6	28	66	559	58	619	6
Cargo	2,846	28,927	682	7,075	505	5,367	177	1,708	213	3,157	20	432	53
Tanker	479	6,829	412	6,355	161	2,997	251	3,737	213	3,157	20	432	9
1955	3,285	35,017	1,026	12,872	601	6,992	425	5,880	271	3,999	75	996	79
Combination	249	1,887	40	7,033	492	5,383	160	1,650	10	385	52	591	65
Cargo	2,560	26,539	652	7,033	371	3,661	1	10	23	614	23	405	13
Tanker	426	6,790	334	5,468	70	1,248	284	4,220	228	3,614	23	405	201
1960	2,960	32,521	930	12,467	558	6,541	372	5,926	237	4,284	50	717	85
Combination	306	2,044	36	3,119	34	3,035	2	14	2	375	39	442	74
Cargo	2,296	23,015	627	6,854	479	5,265	148	1,589	35	3,910	11	275	9
Tanker	428	7,762	267	5,295	45	972	222	4,323	202	3,910	11	275	60
1962	2,716	30,054	883	12,567	543	6,616	340	5,951	231	4,640	32	412	77
Combination	259	1,225	821	2,274	29	2,260	14	1,234	32	3,602	24	255	59
Cargo	2,018	21,024	597	6,737	482	5,554	115	1,234	32	4,278	8	164	16
Tanker	409	8,006	255	5,506	32	803	223	4,708	199	4,278	8	271	50

¹ All inactive vessels.

² Includes ships originally constructed as cargo ships but converted to transports, hospital ships, etc., previously included in cargo classification as follows: 1955, 181 ships

of 1,124,000 tons; 1959, 237 ships of 1,427,600 tons; 1962, 218 ships of 1,305,400 tons.

Source: Department of Commerce, Maritime Administration; records.

Merchant Vessels

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No. 837. MERCHANT VESSELS COMPLETED BY U.S. SHIPYARDS: 1930 TO 1962

[Represents self-propelled steel vessels of 2,000 gross tons and over. Excludes Alaska and Hawaii]

YEAR	ALL MERCHANT VESSELS		PASSENGER-CARGO/TRANSPORT			CARGO			TANKER		
	Num- ber	Gross tons	Num- ber	Gross tons	Dead- weight tons	Num- ber	Gross tons	Dead- weight tons	Num- ber	Gross tons	Dead- weight tons
1930-----	18	163,500	5	50,311	39,269	2	15,824	24,000	11	97,365	161,219
1935-----	2	19,022							2	19,022	29,760
1940-----	53	444,727	6	68,943	61,222	31	227,275	334,660	16	148,509	238,352
1941-----	95	749,108	6	58,107	56,515	61	423,032	507,943	28	267,979	434,039
1942-----	724	5,392,848	11	101,847	81,200	652	4,678,880	6,842,689	61	612,121	982,381
1943-----	1,661	12,485,629	20	219,760	180,047	1,410	10,103,245	14,921,082	231	2,162,624	3,420,405
1944-----	1,463	11,403,163	48	461,291	330,311	1,175	8,455,475	11,857,797	240	2,486,397	3,954,957
1945-----	1,041	7,614,898	46	609,163	311,046	807	5,336,152	7,206,201	188	1,769,583	2,787,397
1950-----	26	404,617				3	26,854	43,500	23	377,763	608,593
1955-----	9	119,104				7	84,110	95,289	2	34,994	55,414
1957-----	10	297,350				3	7,885	6,350	16	289,465	456,694
1958-----	30	571,886	4	60,700	34,707	5	48,211	66,681	21	462,975	759,496
1959-----	30	713,562	1	5,315	1,200	3	40,434	72,834	26	667,813	1,095,388
1960-----	26	409,736				15	133,592	163,309	11	276,144	455,372
1961-----	25	368,937				18	190,019	224,230	7	178,918	298,056
1962-----	27	391,608	1	13,559	9,830	23	264,627	303,487	3	113,422	185,972

Source: American Bureau of Shipping, New York, N.Y. Published annually in *The Bulletin*.

No. 838. U.S. MERCHANT MARINE—SUMMARY: 1930 TO 1962

[As of June 30 for 1930 to 1940; January 1, thereafter. Includes Alaska, Hawaii, Puerto Rico, Guam, and Virgin Islands. Covers documented vessels of 5 net tons or more. See also *Historical Statistics, Colonial Times to 1957*, series Q 153-174]

YEAR	NUMBER OF VESSELS			GROSS TONNAGE OF VESSELS (1,000)							
	Total	Steam and motor	All other	Total	Major class			Material of which built		Type of trade in which engaged ³	
					Steam and motor	Sail- ing	Un- rigged ¹	Metal ²	Wood	For- eign trade	Coast- wise and internal
1930-----	25,214	18,211	7,003	16,068	13,757	757	1,554	13,514	2,554	6,296	9,723
1935-----	24,919	18,495	6,424	14,654	12,535	441	1,677	12,469	2,183	4,560	10,049
1940-----	27,212	19,504	7,708	14,018	11,353	200	2,466	n.a.	n.a.	3,638	10,352
1945-----	29,797	22,772	7,025	32,813	30,247	115	2,452	30,808	1,915	26,043	6,766
1950-----	36,083	28,793	7,290	31,215	28,327	82	2,806	29,263	1,952	19,154	12,048
1955-----	39,242	31,882	7,360	29,958	26,792	40	3,125	28,336	1,622	18,143	11,812
1956-----	39,499	32,030	7,469	29,610	26,251	34	3,326	28,073	1,537	17,765	11,843
1957-----	40,191	32,423	7,768	29,421	25,785	24	3,612	27,935	1,486	17,265	12,154
1958-----	41,276	32,988	8,288	28,586	24,599	23	3,908	27,118	1,469	16,206	12,376
1959-----	42,400	33,506	8,903	28,895	24,333	23	4,539	27,470	1,425	15,600	13,284
1960-----	43,088	33,640	9,448	28,581	23,553	23	5,005	27,184	1,397	14,737	13,833
1961-----	43,367	33,796	9,571	26,403	21,175	18	5,210	25,028	1,375	13,126	13,260
1962-----	43,500	33,852	9,714	26,456	20,076	18	5,362	24,107	1,349	12,393	12,775

AREA OF LOCATION	NUMBER OF VESSELS					GROSS TONNAGE OF VESSELS (1,000)				
	1950	1955	1960	1961	1962	1950	1955	1960	1961	1962
Total.....	36,083	39,242	43,088	43,367	43,500	31,215	29,958	28,581	26,403	25,456
Atlantic and Gulf.....	21,623	23,355	24,963	25,063	24,725	20,420	20,402	18,926	16,751	16,477
Pacific.....	10,066	10,687	10,828	10,876	10,855	8,446	7,004	5,782	5,313	4,583
Northern lakes.....	2,026	2,905	1,950	2,020	1,971	1,628	1,590	1,728	2,121	2,056
Western rivers.....	2,368	3,195	5,347	5,408	6,015	721	962	2,145	2,218	2,389

n.a. Not available.

¹ Vessels having no propelling power of their own.

² Comprises iron, steel, composite, concrete, and aluminum. Beginning 1961, includes plastic (fiberglass).

³ Excludes vessels engaged in whale, cod, and mackerel fisheries.

Source: Treasury Department, Bureau of Customs; annual report, *Merchant Marine Statistics*.

Waterways, Water Traffic, and Shipping

No. 839. U.S. MERCHANT MARINE—NUMBER AND GROSS TONNAGE OF VESSELS, BY YEAR OF BUILD: 1962

[As of January 1. Includes Alaska, Hawaii, Puerto Rico, Guam, and Virgin Islands. Covers documented vessels of 5 net tons or more]

YEAR OF BUILD	Number	Gross tons	YEAR OF BUILD	Number	Gross tons	YEAR OF BUILD	Number	Gross tons
Total	43,566	25,455,742	1936-1940	3,636	774,176	1951	1,084	341,048
			1941	883	433,854	1952	1,061	445,965
Unknown	606	44,867	1942	1,286	1,581,986	1953	1,309	653,833
1849-1900	607	173,020	1943	1,806	3,349,125	1954	1,274	590,302
1901-1905	480	291,552	1944	2,109	3,946,858	1955	1,264	484,890
1906-1910	760	772,694	1945	1,827	4,033,503	1956	1,571	482,540
1911-1915	1,115	270,841	1946	1,471	608,172	1957	1,813	659,539
1916-1920	1,442	373,885	1947	1,380	296,092	1958	1,515	842,628
1921-1925	1,645	408,440	1948	1,268	244,313	1959	1,360	841,729
1926-1930	3,054	598,132	1949	1,105	205,407	1960	1,091	676,862
1931-1935	1,804	237,504	1950	1,003	221,748	1961	877	620,287

No. 840. U.S. MERCHANT MARINE—NUMBER AND GROSS TONNAGE OF VESSELS, BY TONNAGE GROUP: 1962

[As of January 1. Includes Alaska, Hawaii, Puerto Rico, Guam, and Virgin Islands. Covers documented vessels of 5 net tons or more]

TONNAGE GROUP	ALL VESSELS		STEAM		MOTOR		SAILING		UNRIGGED ¹	
	Number	Gross tons (1,000)	Number	Gross tons (1,000)	Number	Gross tons (1,000)	Number	Gross tons (1,000)	Number	Gross tons (1,000)
Total	43,566	25,456	2,426	17,990	31,426	2,085	163	18	9,551	5,362
5 to 49 tons	25,824	463	21	1	25,011	442	143	2	649	19
50 to 99 tons	3,927	272	33	3	3,465	238	4	(²)	425	31
100 to 499 tons	6,840	1,920	181	43	2,483	505	7	2	4,169	1,370
500 to 999 tons	3,692	2,666	56	54	213	139	5	4	3,418	2,468
1,000 to 4,499 tons	1,263	2,430	157	513	219	475	4	0	883	1,433
5,000 to 9,999 tons	1,599	11,904	1,563	11,650	29	213			7	41
10,000 to 19,999 tons	379	4,763	373	4,690	6	73				
20,000 tons and over	42	1,036	42	1,036						

¹ Vessels having no propelling power of their own.

² Less than 500 gross tons.

No. 841. U.S. MERCHANT MARINE—NUMBER AND GROSS TONNAGE OF VESSELS BUILT AND REMOVED: 1940 TO 1961

[Includes Alaska, Hawaii, Puerto Rico, Guam, and Virgin Islands. Covers documented vessels of 5 net tons or more. Vessels may be added to merchant marine by way of redocumentation. However, figures are available only for vessels documented. See also *Historical Statistics, Colonial Times to 1957*, series Q 178-182.]

YEAR	VESSELS BUILT AND DOCUMENTED			GROSS TONNAGE OF VESSELS REMOVED (1,000)				
	Number	Gross tonnage (1,000)		Total	Lost and abandoned	Sold to aliens ³	Out of documentation	All other
		Total ¹	Steam and motor	Unrigged ²				
1940	705	447	386	61	1,697	274	1,114	62
1945	1,744	6,314	6,259	55	901	138	75	42
1950	861	194	103	91	1,238	163	488	411
1955	1,116	400	117	283	866	63	418	208
1956	1,385	446	152	293	890	60	274	122
1957	1,582	585	249	336	1,625	33	579	728
1958	1,390	837	406	431	961	35	87	694
1959	1,180	792	386	406	1,448	58	50	1,264
1960	949	629	352	277	3,065	55	249	2,555
1961	877	620	389	231	1,966	54	456	1,260

¹ Includes small amount of tonnage for sailing vessels for certain years.

² Vessels having no propelling power of their own.

³ Beginning 1955, sold or transferred to aliens.

Source of tables 839-841: Treasury Department, Bureau of Customs; annual report, *Merchant Marine Statistics*.

Merchant Vessels

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No. 842. MERCHANT VESSELS LAUNCHED AND OWNED—WORLD AND UNITED STATES: 1935 TO 1962

[Vessels of 100 gross tons and over. Includes Alaska and Hawaii. Beginning 1945, excludes sailing ships, non-propelled craft, and all ships built of wood]

YEAR	WORLD				UNITED STATES			
	Launched		Owned		Launched		Owned	
	Number	Gross tons (1,000)	Number	Gross tons (1,000)	Number	Gross tons (1,000)	Number	Gross tons (1,000)
1935-----	1,040	12,595	30,979	64,886	117	1,244	3,585	12,773
1940-----	495	1,754	(3)	(3)	167	579	(2)	(2)
1945-----	1,311	7,189	(3)	(3)	880	5,968	(2)	(2)
1950-----	990	3,489	27,922	83,996	51	437	4,531	27,404
1955-----	1,437	5,315	29,967	100,069	26	73	4,225	26,343
1957-----	1,960	8,501	31,421	109,778	54	359	4,116	25,843
1958-----	1,936	9,270	32,857	117,578	64	732	4,054	25,526
1959-----	1,808	8,746	33,924	124,494	47	597	3,964	25,227
1960-----	2,020	8,356	34,056	129,339	60	485	3,845	24,781
1961-----	1,990	7,940	35,465	135,477	56	343	3,728	24,184
1962-----	1,901	8,375	36,364	139,549	90	449	3,542	23,220

¹ 1935-1939 average.

² Not recorded.

Source: Lloyd's Register of Shipping, London; records.

No. 843. MERCHANT FLEETS OF THE WORLD—NUMBER AND AVERAGE AGE OF VESSELS, BY TYPE OF VESSEL AND COUNTRY OF REGISTRATION: 1960

[Vessels of 1,000 gross tons and over. As of December 31. Specified countries have 100 or more ships]

COUNTRY OF REGISTRY	TOTAL		COMBINATION PASSENGER AND CARGO		FREIGHTERS		BULK CARRIERS ¹		TANKERS	
	Number	Average age (years)	Number	Average age (years)	Number	Average age (years)	Number	Average age (years)	Number	Average age (years)
			1,254	18.8	11,512	14.5	1,185	10.9	3,366	9.7
World total-----	17,317	13.6								
United States-----	2,926	15.9	309	16.3	2,138	16.3	57	15.7	422	13.7
Privately owned-----	1,008	14.4	37	13.8	576	15.2	57	15.7	338	12.9
Government-owned-----	1,918	16.7	272	21.6	1,582	16.7	-----	-----	84	16.5
Foreign-----	14,391	13.2	945	19.7	9,374	14.1	1,128	10.7	2,944	9.1
Argentina-----	151	20.5	22	18.3	75	20.4	3	38.0	51	20.6
Australia-----	120	12.8	10	19.4	69	13.1	40	10.7	1	5.0
Brazil-----	227	23.0	25	43.8	147	24.9	15	13.5	40	6.6
China (mainland)-----	141	23.3	12	31.5	107	23.5	8	17.5	14	18.3
Denmark-----	349	9.2	24	23.2	254	8.8	4	7.0	67	5.5
Finland-----	225	20.7	8	38.4	176	20.8	16	26.9	25	10.2
France-----	641	9.4	58	12.7	387	9.7	9	7.9	147	8.1
Germany (West)-----	802	9.0	24	13.1	738	8.7	51	10.2	49	9.3
Greece-----	602	14.3	31	25.5	442	14.2	54	14.9	75	9.8
India-----	150	10.9	12	14.8	135	10.6	-----	-----	3	7.7
Italy-----	656	17.6	76	18.6	393	20.0	41	12.5	146	12.1
Japan-----	1,036	9.0	24	15.1	819	9.3	63	6.7	130	7.0
Liberia-----	875	11.1	5	26.2	385	14.9	104	9.1	381	7.6
Netherlands-----	557	9.6	59	14.9	372	9.4	21	3.6	105	8.7
Norway-----	1,336	9.1	80	12.9	716	10.5	89	5.8	501	7.5
Panama-----	495	19.0	21	26.3	267	23.4	45	17.2	162	11.1
Poland-----	123	14.0	2	21.5	107	13.7	9	16.4	5	12.0
Spain-----	337	29.2	44	22.4	221	34.4	17	27.5	55	14.2
Sweden-----	564	12.5	24	23.3	379	13.9	62	10.0	99	6.5
Turkey-----	135	29.4	30	24.9	91	32.0	3	42.7	11	17.3
United Kingdom-----	2,413	10.2	180	15.2	1,395	10.6	267	8.0	571	8.7
U.S.S.R-----	873	18.0	73	27.9	568	20.7	98	7.9	134	8.4
Yugoslavia-----	140	15.5	10	16.0	119	15.5	2	32.0	9	11.6
All other ² -----	1,383	16.0	141	18.6	1,012	15.5	67	20.6	163	14.5

¹ Includes ore carriers and ore/oil carriers.

² Includes the following countries with less than 100 merchant type ships (1,000 gross tons and over) under their registry: Albania, Belgium, British Colonies (British Commonwealth), Bulgaria, Burma, Canada, Ceylon, Chile, China (Taiwan), Colombia, Costa Rica, Cuba, Czechoslovakia, Dominican Republic, Ecuador, Ethiopia, France, Germany (East), Ghana, Guatemala, Honduras, Hungary, Iceland, Indonesia, Iran, Ireland, Israel, Korea, Kuwait, Lebanon, Libya, Mexico, Monaco, Morocco, New Zealand, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Portugal, Romania, Saudi Arabia, Switzerland, Thailand, Tunisia, South Africa, United Arab Republic, Uruguay, Venezuela, and Viet-Nam.

Source: Department of Commerce, Maritime Administration; *A Statistical Analysis of the World's Merchant Fleets*, December 1960.